

POPULATION TODAY™

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A young Yemeni girl.

World Bank photo by Tomas Szent

'Death and Taxes': A Contrary View

by Kenneth G. Manton, Beth J. Soldo and Elizabeth Vierck

In September 1984 PRB published "Death and Taxes: The Public Policy Impact of Living Longer." This paper drew attention to the impact of the "senior boom" and the aging process on the federal budget and, by extension, on U.S. society.

The following article is a dissent to parts of that paper, written by three specialists in the demography and biology of human aging. Because of the expertise of the three authors, and the thoughtful arguments they present, **Population Today** is pleased to publish it below. Kenneth G. Manton is Associate Research Professor, Center for Demographic Studies, Duke University; Beth J. Soldo is Senior Research Scholar, Center for Population Research, Georgetown University; and Elizabeth Vierck is an Analyst, Special Committee on Aging, U.S. Senate.

While the dramatic increases in the number of older persons is a demographic reality that will challenge U.S. public policy well into the next century, we feel the PRB report unfortunately miscasts several of the key dimensions of this challenge.

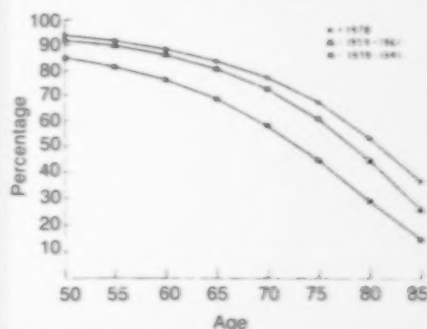


Figure 1. Changes in the proportion of white females in the U.S. surviving for ages 50 to 85—1940 to 1978.

Source: Manton, Kenneth G. 1982. "Changing Concepts of Morbidity and Mortality in the Elderly Population." *Milbank Memorial Fund Quarterly/Health and Society*, Vol. 60(2):183-243.

tant for public policy. Already the extremely old are the fastest growing age group within our entire population and will pose special planning challenges since per capita hospital and nursing costs peak at these ages. This age group, which nearly tripled in size between 1960 and 1980, now numbers nearly 2.4 million persons. It is projected to triple by 2020 and nearly double again by 2040.

The rapid aging of our population reflects recent significant declines in death rates from the chronic degenerative diseases whose impact is concentrated in the older years of life. The mortality patterns of the elderly also are of special interest because as death rates at the younger ages fast approach an irreducible level (as early as 1950, 94.3 percent of white females were surviving to age 50 and 80 percent to age 65), old-age becomes the "last frontier" for further large reductions in mortality.

The first point we take issue with concerns the prospects and mechanisms for extending human life. The PRB report (summarized in the Sept. 11 *Washington Post*) correctly points out that this is no mere esoteric topic. Further improvements in survivorship at the later ages will determine the absolute size and structure of our older population at future points in time. Even today, the number of those 65+ is increasing at a rate nearly twice that of the total U.S. population. The unprecedented growth in the 85+ population is perhaps even more impor-

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U.S. Baby Boomers Are Waiting Longer

Those pregnant older women you may have noticed in the downtown noon-hour crowds are no fluke. The baby boomers of 1947-1964 really are having the babies they put off during the "baby bust" of the 1970s, confirm Wendy Baldwin and Christine Winquist Nord in PRB's *Bulletin* for November, "Delayed Childbearing in the U.S.: Facts and Fictions."

So far the postponed "echo baby boom" is faint. Annual total births in the U.S. climbed from below 3.2 million in the mid-1970s to 3.7 million in 1982 and then actually slipped to 3.6 million in 1983. This is far below the record 4.3 million births in the baby boom peak year, 1957.

But first births to women 25 and older (Baldwin and Nord's definition of delayed childbearing) have doubled—from 268,830 in 1970 to 561,814 in 1982—and their share of all first births rose from 19 to 36 percent. At the same time, the proportion of women still childless at ages 25-34 went up 56 percent.

Today's delayed childbearing contrasts sharply with the young parenting of the baby boom era. But its pattern is similar to that of women who reached childbearing ages during the 1930s and who put off childbearing during the Depression and then tried to catch up later during the prosperous post-World War II years.

Like the 1930s women, today's women are deferring marriage; the proportion never-married among women 20-24 in 1983 (56 percent) was the highest it has been since 1890. But with the help of modern contraceptives, they are also delaying childbirth after marriage. The median interval between marriage and first birth for mothers over 30 when the baby is born is now more than five years.

Like the 1930s, today's delayed childbearing is a response to hard times. Baby boom men and women have faced fierce competition in the job market due to recurrent recessions and their own sheer numbers. What is different is that current delayed childbearing also coincides with the flood of women into the workforce. Fifty-three percent of married mothers of children under 6 are working in

1984, compared to 12 percent in 1950; and 65 percent of mothers of school-age children 6-17 work, versus 28 percent in 1950. And most working women—unlike their mothers in the 1950s and 1960s—are returning to work within a few months of childbirth. Increasing labor force opportunities and commitment are likely to prompt American women to continue delaying motherhood "even after economic prospects brighten for young people," say Baldwin and Nord.

Couples who delay childbearing are typically white, highly educated, and two career. Figures for the late 1970s show black college-educated women still twice as likely as their white counterparts to be mothers by age 25 (53 versus 28 percent).

Child care for preschool children of working mothers is a prime concern. Flex-time, job-sharing, flex-place (working at home), and employer-subsidized child care are catching on, but most working parents must rely on private care by grandparents, other relatives or non-relatives. Day-care centers and nursery schools accommodated only 17 percent of the youngest children under 5 of married mothers working full time in 1982.

Little research has been conducted so far as to how the older

working mother copes with the juggle between job and childraising; what effect delayed childbearing has on marital relations; or what happens if the older mother finds she's winding down just as her teenager is winding up. Money can help with many potential problems, the *Bulletin* authors observe. A recent study shows that older parents spend more money on their children, particularly white-collar couples where the husband's earnings peak in his late 40s, about the time children born after the wife is 30 reach their most expensive years.

For women wondering how long they dare race the biological clock, Baldwin and Nord confirm that the proportion of women unable to conceive a child does go up with age—from 9 percent at ages 25-29 and 15 percent at 30-34 to 30 percent at ages 35-39 and 64 percent at 40-44, according to the latest estimates. But these figures are based on studies of historical populations. Nowadays, new treatment methods can overcome infertility in half the couples who seek help and for the remainder—if only one partner is sterile—possibilities exist for artificial insemination, in-vitro fertilization (test-tube babies), embryo transfer, or—though highly controversial—surrogate motherhood. Amniocentesis and

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Applications for PRB Visiting Scholar

Applications are invited for PRB's Visiting Scholar Award for the nine-month period beginning September 1985.

The recipient of the Award, made available under a grant from the Andrew W. Mellon Foundation, will be expected to spend at least nine months at PRB in Washington, D.C., developing a population policy-related project of either domestic or international focus. Priority will be given to policy-oriented projects that attempt to synthesize work on a particular topic (including the scholar's own contribution). Proposals for new research activities will also be considered.

Interested individuals should forward a brief description of planned activities with a current curriculum vitae and copies of recent publications no later than February 1, 1985 to: Visiting Scholar Program, Population Reference Bureau, 2213 M Street, N.W., Washington, D.C. 20037. For further information, telephone Dr. Leon F. Bouvier (202) 785-4664.

The negotiable stipend is comparable with academic salaries, and includes transportation cost to and from Washington, D.C.

Announcement of the Visiting Scholar Award will be made on March 1, 1985. □

FROM THE EDITOR'S DESK

Although no one's called us on it yet, veteran *PT* readers are familiar with our habit of referring to other countries in such terms as "Massachusetts-sized El Salvador."

Now it may be true that some in the U.S. hold a centrist view of the world—like a large version of that famous Saul Steinberg cartoon of New York, only this time with the U.S. dominating the foreground, another continent-spanning superpower dominating the background, and two-hundred-odd other countries on the margins, like so many Massachusettses. Maybe—but *PT* pleads innocent. We have no such world view; we're just trying to give a thumbnail sketch of other countries' land areas. And for all we know, our next description could be of "Benin-sized Ohio."

—Art Haupt

Delayed Childbearing

Continued from page 3

other new prenatal diagnostic methods can also help parents deal with the small increased risk for older mothers of bearing a child with chromosomal birth defects like Down's syndrome.

Current high figures on first births to women aged 25-34 have much to do with the inflated numbers of baby boomers now in those ages, Baldwin and Nord point out. The same phenomenon guarantees high figures well into the 1990s. Women born in 1964—the year pegged by demographers as the last year of the baby boom—have just turned 20, and "most of them show no signs of reverting to early-childbearing patterns," the authors conclude.

Wendy Baldwin directs the demographic and behavioral science research funding program of NICHD's Center for Population Research. Co-

author Christine Nord, now with Child Trends, Inc., of Washington, D.C. is studying the development of children of delayed childbearers. □

Additional copies of the 42-page *Population Bulletin*, "Delayed Childbearing in the U.S.: Facts and Fictions" (Vol. 39, No. 4) can be ordered from the Population Reference Bureau for \$4.00 each; 2-10 copies, \$3.00 each; 11-50 copies, \$2.50 each; over 50, \$2.00 each. Handling charges: Inside the U.S., add \$1.00 to each order; outside the U.S., add 25 percent of costs of *Bulletins* ordered.

Congress Allows U.S. Immigration Bill to Die

The Simpson-Mazzoli immigration reform bill, which seemed on the brink of passage last spring, became the victim of election-year politics as support unraveled and opponents succeeded in stalling until the legislative clock ran out. Congress adjourned without finishing work on the bill.

The House-Senate committee working out the differences between the two bills sailed past anticipated points of controversy, including the bill's amnesty provisions and penalties for employers who hire undocumented workers. Instead, they got bogged down on an anti-discrimination measure proposed by liberals and a spending limit sought by the White House.

Even if these points had been worked out, another vote by each house was needed. Passage of a compromise version seemed unlikely as elections grew nearer and Hispanic voters and other opponents flexed their political muscles. Democratic presidential candidate Walter F. Mondale voiced fierce opposition to the bill, and even White House support for the measure cooled.

Various immigration reform bills have been brought before Congress for more than a dozen years. All have met defeat, though this attempt came closer than any yet. Supporters claim to be tired and frustrated and unwilling to try again. Opponents expect to resume the battle next year. Seasoned observers, however, feel that in the future the only kind of immigration reform palatable to lawmakers will come in the form of more money for tougher border patrols. □

SURVEY REPORT

North Yemen

The Yemen Arab Republic, a country on the western coast of the Arabian peninsula and about the size of Oklahoma, has made available the results of the World Fertility Survey taken in 1979.



Yemen's population of about 6 million (not counting over 1 million Yemenis working abroad) is growing at a rate of about 2.7 percent

per year and appears to maintain the world's highest level of fertility. Although the government does feel that fertility in the country is too high, this may be prompted more for maternal and child health concerns than anything else. The government is satisfied with the growth rate and would like to lower the death rate and repatriate those working abroad.

The survey estimated that Yemen's total fertility rate (TFR) for the five year period before the survey can be estimated at about 8.5 lifetime births per woman. The report notes that this is very near "natural fertility" such as observed in Hutterite women in the U.S. and Canada in the 1920s and 1930s. About one-fourth of the women interviewed had heard of some contraceptive method; this rises to three-fourths in the urban areas. However, only about 3 percent had ever used any method. The likelihood of ever having used a method rose with education, a pattern observed in many countries.

Overall, when asked how many children they desired, the women gave an average response of 5.4. But this figure is based upon the 56 percent who gave a numeric answer; the remainder gave an answer such as "as many as God sends."

With early age at marriage, a desire for many children, a scattered, rural population heavily dependent upon subsistence agriculture, and little contraceptive knowledge, it would seem that North Yemen's high fertility is likely to persist for some time. □

Population Aid Up by \$50 Million; IPPF Hangs Fire

U.S. international population assistance was increased from \$240 million to \$290 million in FY 1985 in the omnibus Continuing Resolution passed by Congress and signed by President Reagan Oct. 12.

The \$50 million rise is the largest funding jump ever for population, and manifests continuing congressional population support. About 16 percent of the total is earmarked for the UN Fund for Population Activities.

Meanwhile, three months after enunciating its dramatic new population policy (over and above barring funding for abortions, the new policy would bar funding to nongovernmental organizations that "perform or actively promote" abortion with other monies) the Reagan Administration has not yet made an example of any organization (notably the International Planned Parenthood Federation). Some insiders say attorneys for AID are having difficulty in drafting such a

blanket restriction in a way that would not also legally affect other nongovernmental organizations' funding.

So far, the most concrete action is an October cable that went out from the State Dept. to AID overseas offices, stating that in future population assistance agreements, the nongovernmental grantee must agree that it does not perform or actively promote abortion and will abide by future AID guidelines. (In a nonbinding "sense of the House" resolution, the House of Representatives asked that funds not be denied programs based on their abortion involvement in other programs.) □

Indonesia Moves Island Population

Indonesia is increasing its ongoing efforts to relocate large numbers of people to less densely populated areas of the 13,500-island archipelago nation. Java, which could reach 1,000 persons per square kilometer

by 2000, Bali, and Lombok have been targeted as the islands with the most serious crowding conditions.

The government plans to move 845,000 families by March 1989, primarily to sparsely inhabited Kalimantan and Irian Jaya. Part of the program involves clearing of new lands and the provision of moving expenses, some of that funding coming from World Bank assistance. Each migrant family would receive free food for the first 18 months. Some voluntary migration, including illegal migration to labor-short Malaysia, has already occurred in response to economic opportunities. □

Singapore Promotes Selective Sterilization

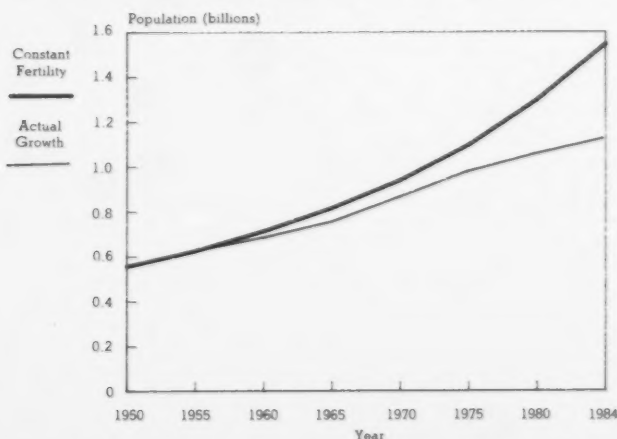
Singapore has adopted a population policy which is certain to be controversial. IPPF's *People* magazine reports that Prime Minister Lee Kuan Yew has stated that the country's population growth has become "lopsided." This, because Singapore's strict population control program was working better among the wealthier, educated women than among poorer women.

In order to correct this perceived social imbalance in fertility, powerful incentives have been offered to the less educated to undergo sterilization. Thus, women with no diploma and family incomes less than 1,500 Singapore dollars per year will be offered a truly large sum — S\$10,000 — if they are sterilized after their first or second birth.

While some other nations (such as the Soviet Union and West Germany) are concerned to some degree with more rapid population growth among minorities, Singapore's recent policies may be the harbinger of "differential" family planning policies. □

SPEAKING GRAPHICALLY...

China Population:
Actual and With Total Fertility Constant at 6.3 Since 1950



China, of course, has "put the brakes on" population growth with a well-known family planning program that puts temporary emphasis on the one-child family. But what if China had no population program and its birth rate remained at, say, the 1950s level? The graph shows China's actual population growth from 1950 to 1984 (blue line) and what it would have been if the official reported total fertility rate of 6.3 children per woman in 1950-1955 had remained unchanged. Rather than the 1 billion total of 1984, China's population would now be 1.6 billion and would be growing at 3.5 percent per year versus today's actual 1.3 percent.

DEMOGRAPHER'S

The Dynamics of Population Momentum

by Murray Gendell

PRB's *Population Handbook* provides the usual demographic definition of "population momentum" as "the tendency for population growth to continue beyond the time that replacement level fertility has been achieved because of a relatively high concentration of people in the childbearing years."

The phrases "replacement level fertility" and "childbearing years" tend to focus the nondemographer's attention exclusively on fertility. One purpose of this demographer's page is to show the role of mortality in this process. Another purpose is to explain how the forces that provide the momentum when fertility has reached the replacement level have significant effects on the rate of natural increase (births minus deaths) before replacement level is reached. Thus, "population momentum" can have a meaning broader than the one usually used.

More generally, "population momentum" may be defined as the influence that a population's age structure (i.e., the relative number of people at each age) has on its rate of natural increase. (Age structure may also have a significant influence on the rate of net migration, but this issue cannot be discussed in a short essay.)

Ignoring migration, we know that fertility has a much greater effect on the age structure than mortality. High fertility, producing many children, results in a young population. A population, for instance, that has had a birth rate greater than 40 per 1,000 people will have more than 40 percent of its people under age 15 and no more than about 3

percent age 65 or more. The level of mortality will make little difference. Historically, in fact, when the death rate has fallen, it has dropped more rapidly at the younger than the older ages, resulting in populations that were slightly younger than they had been before the decline.

As fertility falls, the relative number of children declines, and the proportions of the middle-aged and the elderly increase. These changes in the age structure affect birth and death rates. To see why and how, let us look at these vital rates one at a time.

The crude birth rate (CBR) is defined as the ratio for a specified period of time between (1) the number of live births that occurred during that time period and (2) the average population size during the same period. This rate is basically a function of (1) the proportion of women of reproductive age in the population and (2) the rate at which these women give birth, called the general fertility rate (GFR), as the following equation shows:

$$\frac{B}{P} = \frac{W15-49}{P} \times \frac{B}{W15-49}$$

(birth rate) (a) (b)

where B = number of live births, P = the average population, and W15-49 = women aged 15 to 49 years of age. (These childbearing ages are somewhat arbitrary but have been adopted by demographers for statistical convenience.)

The equation shows that the birth rate is influenced by (a) the relative number of women of reproductive age as well as by (b) the rate at which they give birth, the GFR. In a young population, the proportion of these women is relatively small. As the age structure "matures," however, this proportion increases. At some point it reaches a maximum, and as the percentage of people over age 49 continues to in-

crease, it begins to decrease.

This process is illustrated in United Nations estimates of the fertility trend in the Philippines between 1950 and 1975 and a projection of the fertility trend between 1975 and 2025 (Table 1). During the 50-year period between 1960-65 and 2010-15, the proportion of women of reproductive age is projected to increase by 23 percent (from 21.8 to 26.9 percent). If there were no change in the GFR during this period, the CBR would increase by the same percentage. The GFR, however, is projected to fall by 65 percent (from 203 to 71). Such a large drop would more than offset the increase in the proportion of women of reproductive age, resulting in a decline in CBR. The CBR, simultaneously tugged upward by the increase in women of reproductive age and downward by the decline in GFR, ends up falling by 57 percent (from 44.2 to 19.1).

Between 1950-55 and 1960-65, there was no increase in the proportion of women of reproductive age. Thereafter, this proportion increases for 50 years, reaching a maximum in the period of 2010-2015. During the following 10 years, it falls a little; unfortunately, the UN projection does not go beyond 2020-25, so we cannot see how long and how much it would decline.

Nevertheless, the projection does illustrate the important way in which the inevitable "maturing" of the age structure, as fertility falls from a high level, acts to slow down the decline in the birth rate. The latter is directly related to the rate of natural increase (the birth rate minus death rate); thus, the rate of natural increase cannot fall as rapidly as does fertility, as measured by the GFR. And this deceleration mechanism operates for decades.

Ultimately, however, the mechanism's effect is limited; it can negate only a small (even if significant) part of a sustained decline in the GFR,

and it cannot do so indefinitely.

Table 1 provides further insights into how population momentum operates through changes in age structure. In addition to the trends in CBR and GFR, it shows the trend in a third measure of fertility called the total fertility rate (TFR). This measure is a sum of the age-specific rates at which women give birth. It often is interpreted to show the average number of children women would have when they reach the end of the reproductive age span if they experience the age-specific fertility rates which are summed up in the TFR. Mortality before age 50 aside, a TFR of 2.0 implies that each generation of couples would be replaced by a generation of equal size. With mortality rates figured in, the replacement level of fertility requires a TFR value greater than 2.0.

In the case of the Philippines (as shown in Table 1), the replacement level of fertility is reached no later than 2020-25, when TFR is 2.05. Yet, at that time, CBR (16.5) exceeds the crude death rate (CDR) by 10.0 per 1,000 population, or 1 percent. Thus, the rate of natural increase (i.e., CBR minus CDR) is still substantial. (At this rate, assuming migration is negligible, a population would double in size in about 70 years.)

The extent of any further decline in the rate of natural increase depends on the extent to which CDR increases and/or CBR decreases. As noted above, the latter depends on declines in the GFR and/or the proportion of women in the reproductive ages. If TFR does not increase, this proportion is quite likely to continue to fall. If TFR continues to decline, going below replacement level of fertility (as has happened in a number of countries), then the decline will be accelerated.

Variations in age structure can have a substantial effect on CDR. Thus, a population with a large proportion of elderly people, whose

Table 1: Trend of Fertility and the Proportion of Women of Reproductive Age in the Philippines, 1950-2025

Period	Crude birth rate (per 1,000 pop.)	Rate of natural increase (per 1,000 pop.)	General fertility rate (per 1,000 women 15-49)	Total fertility rate	Proportion of women of reproductive age (15-49) (%)
1950-55	49.7	28.9	227	7.28	21.9
1960-65	44.2	29.8	203	6.62	29.8
1970-75	38.3	28.3	167	5.49	22.9
1980-85	33.9	26.2	140	4.51	24.2
1990-95	27.9	21.6	109	3.48	25.6
2000-05	22.4	16.7	84	2.66	26.7
2010-15	19.1	13.3	71	2.25	26.9
2020-25	16.5	10.0	72	2.05	26.6
Ratio: 2010-15 /1960-65	.43	.45	.35	.34	1.23

Note. The data from 1950 to 1975 are estimates, and the data after 1975 are projected values (medium variant).

Source. United Nations, *Demographic Indicators of Countries: Estimates and Projections as Assessed in 1980*, New York, 1982, pp. 286-87.

death rates are high, will have a higher CDR than a population with a smaller proportion of elderly people, everything else being equal. For example, though Sweden today has a higher life expectancy at birth (a measure of mortality which is not influenced by variations of age structure) than Costa Rica—76 years versus 72 years—its CDR is much higher, 11 versus 4 deaths per 1,000 persons in the population. This is because the percentage of the population over 64 years of age is much greater in Sweden than in Costa Rica, 17 percent versus 4 percent.

In general, CDR can reach very low levels (and has done so in a number of countries) when age-specific death rates reach low levels in a population with relatively few elderly people. But as the percentage of the elderly increases, because of long-run declines in fertility, the CDRs in these countries go up. This rise can be offset somewhat by further declines in age-specific

death rates. Unless, however, major breakthroughs occur in the control of death from cancer and heart disease (the main causes of death among the elderly), declines in elderly death rates are not likely to negate completely the inflating effect on CDR of increases in the elderly population. That has been the case in Sweden and other relatively old low-mortality populations.

If the birth rate continues to fall as the death rate rises, the rate of natural increase diminishes rather quickly and may reach zero or even turn negative. This has happened in several western European countries.

In summary: Population momentum tends at first to slow down declines in rates of natural increase, and this mechanism operates for decades. But eventually it ceases; continued aging of the population then tends to accelerate declines in rates of natural increase and population growth. □

Death and Taxes

Continued from Page 2

The authors of the PRB report sketch an appealing vision of the future where mortality rates at all but the extremes of old age are very low and individuals experience "disease-free" death very late in life. The findings upon which this forecast is based are controversial, by no means gospel and are discounted by many demographers, actuaries and research biologists. The scenario described in the PRB report is based not in "fact" but on three hypotheses: *one*, that the maximum length of life (i.e., life span) is biologically fixed and preprogrammed; *two*, that we are rapidly converging on this predetermined limit of life; and *three*, that research on the "underlying causes of aging," as distinct from disease processes, holds the promise of extending both quality and quantity of life.

Let us consider each of these theories in turn. Is there a biological limit to human life span? The answer is undoubtedly yes. But the real issues are where this limit exists, is it an immutable limit and is it now a significant factor for framing public policy?

Early in the 1960s several cell biologists demonstrated that when certain cell types were cultured, they underwent only a predictable and finite number of replications. Some would argue that this finding implies that the organism's capacity to sustain life is eventually and irretrievably overwhelmed at a predetermined age by species-specific biologic senescence. There is no evidence to date, however, that the aging of any organ, no less the human organism as a complex entity, is simply and directly related to a fixed number of cellular replications. Other research also has demonstrated that some cell groups have doubling potentials that far exceed the life span of the entire human organism. Furthermore, there is no population-based evidence that life span has previously operated as an "immutable limit" as claimed in the PRB report. If one accepts as a definition of life span the age to which only 1 in 100,000 survives, actuaries from the Social Security Administration estimate that, in this century, life span has increased by 8½ years, from 105.4 in 1900 to 113.9 in 1980.

The second hypothesis posits that

actual life expectancy, i.e., the average length of life, is fast approaching the upper limit of life span. This triumph of conquering "premature" mortality would be signaled by what is called the "rectangularization" of the population's survival curve. For a survival curve to become rectangular, the drop from the age to which nearly 100 percent of a birth cohort survive to cohort extinction would have to occur within a narrowing age range. That is, the distribution of age at death within the population would become increasingly concentrated around a fixed, advanced age.

A hypothetical rectangular survival curve, reflecting increasing mortality rates very late in life, is shown in figure 1. Also displayed in this graph are the actual survival curves from ages 50 to 85 for U.S. white females since 1940. These data vividly demonstrate that survival prospects at the oldest ages have increased dramatically. Indeed, since 1960, the proportionate increases in life expectancy at age 85 have far outpaced improvements in the average number of remaining years of life at age 65.

It also is important to point out that, even if the empirical evidence demonstrated rectangularization, there would still be insufficient proof for the claim that large numbers of Americans are living out their natural life spans. Without further information on which deaths are attributable to disease and which, if any, to biologic senescence, a sharp vertical drop in survival chances at some late age might actually be the signal of a failure of public policy to respond to the health needs of our most elderly citizens.

Finally, what evidence exists to support the notion that research on aging, per se, will extend both the length and quality of life for our elderly? This argument assumes the possibility of "natural" or "disease-free" death. Again current evidence offers little support for this theory. At present the failure of all the major systems and organs can be identified with a specific pathology. While it is true that the threshold for organ failure is lower in the elderly, this may simply reflect increased vulnerability from the presence of multiple chronic diseases. Autopsy results, however, do not substantiate the claim that mortality, even that of the very old, occurs indepen-

dent of disease processes. While research on "normal aging," (i.e., basic changes in physiology) will almost surely improve our understanding of age-related changes in the health of our elderly, such research is unlikely to uncover any "fountains of youth" for the next few generations of elderly. This is because the diseases that carry the greatest mortal risk for the elderly, namely the cancers and cardiovascular diseases, have etiologies that trace back over the life course, perhaps even into young adulthood.

Despite the considerable prevalence of both morbidity and disability in the older age groups, the erosion of sensory, functional or cognitive capabilities is not nearly as inevitable as we once thought. Even among the oldest-old, there is tremendous diversity in physical and mental health. In fact, only about half of those 85 years of age and over in the community manifest any functional limitations consequent to chronic disease. Recent analysis of physiological markers, such as muscular capacity, also indicate that even at advanced ages, individuals have substantial potential for recovery of lost function.

For at least the foreseeable future then, the chronic degenerative diseases will pose the most serious threat to quality of life of our elderly. Even if natural death were theoretically possible in the far future, the needs of our elderly over the next 40-50 years require continued support for disease-specific research and its impact on the elderly.

The disease-free death theory also has important implications for clinical judgments as well as health care allocations. If present life expectancy were fast approaching a biological limit to length of life, the relative merits of disease management would most surely outweigh those of treatments. Aggressive treatment of any one chronic illness also would become ill-advised if patients were soon to succumb to "natural death."

All of the issues discussed above relate to the central theme of the costs and benefits, to both individuals and society, of recent increases in the average length of life. Since the end of World War II our progress on this front has been impressive. Even at the very oldest ages, life expectancy has

increased. Nearly half of all men and women can now anticipate celebrating their 80th birthdays. Equally important, the average age at death for those dying of the major killer diseases also has increased. Over the last three decades, the mean age at death for women with coronary heart disease has increased by more than five years (to 82.3 in 1980) and with cancer, by nearly four years. At the same time, the prevalence of the major life-threatening chronic diseases has increased or declined only negligibly. In combination, these trends raise the specter of a population living longer but in a more morbid condition, i.e., a population in which life extension has been accomplished at the expense of increased morbidity and disability.

In order to clarify the public policy challenges posed by recent health trends, it is necessary to reconceptualize health as a process with multiple outcomes. Such an understanding is suggested in Figure 2, which like Figure 1, draws on the survival curve concept. In this figure a survival curve is added for both chronic disease and disability. This approach focuses our attention on the age-related dynamics of disease, disability and mortality risks and also on the relationships among these various health outcomes. While health outcomes are obviously related, biomedical insights suggest that these relationships are neither fixed nor static. Increases in life expectancy do not necessarily translate into comparable postponements in age at onset of disease, but neither do increases in life expectancy automatically imply an extension of the length of morbid or disabled periods. From this perspective, slowing the rate of disease progression—accomplished by shifting the disability curve to the right—emerges as an important clinical goal, research focus and health policy objective.

Even now new biomedical technologies hold the promise of reducing the severity of the chronic degenerative diseases at any age by retarding the progress of the disease. Among the recent clinical innovations with such potential are renal dialysis, insulin "pumps" to assure a more constant flow of insulin and medications to reduce vascular spasming after a stroke.

Thus, from a public policy perspective,

the demography of our rapidly aging society does not necessarily dictate our destiny. To a large extent, the direction and magnitude of public expenditure will shape the health of our future older population and its service needs. It is in this context that we find particularly troublesome the PRB estimates of the "costs" to the federal budget from saving individual lives now lost to the chronic degenerative diseases.

Clearly, generating economic measures for the value of life is difficult, and, for many purposes, a questionable task. Two distinct strategies exist, however, for producing such estimates. One approach, used by the PRB authors, relies on the traditional human capital formulation in which "value" is cast only in financial terms. Even if one endorses this approach, the estimates reported in "Death and Taxes" apparently do not factor in the medical treatment cost savings that would accrue to both the public and private sectors if major degenerative diseases were eliminated. In contrast to the human capital approach, the so-called "willingness-to-pay" approach incorporates much broader definitions of the economic value of life and allows for evaluation of the subjective and ethical dimensions. This latter strategy, for example, would explicitly "count" the substantial "value" of the elderly as consumers, volunteers, and most importantly, as vital family members. Balancing the actual dollar costs against these more qualitative aspects of population aging is the true challenge for public policy. This perspective is unfortunately missing in the PRB report.

We have additional disagreement with the authors of this report; for example, their neglect of competing risks of death considerations in estimating the impact of disease elimination on both life expectancy and the federal budget. We take most serious exception, however, to their discount-

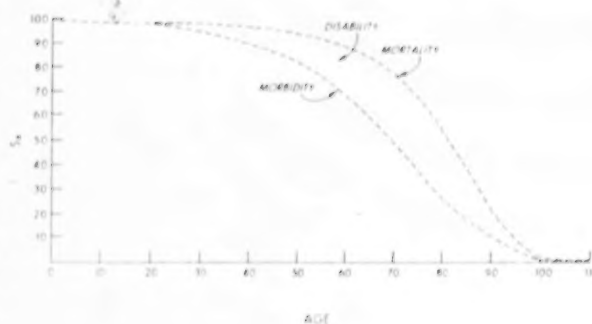


Figure 2. The Mortality (Observed), Morbidity (Hypothetical) and Disability (Hypothetical) Survival Curves for U.S. Females in 1980

ing of our societal, value-based commitment to the elderly. Strict adherence to the principles of cost-benefit accounting would recommend withholding treatment or benefits of any kind at the onset of a chronic illness or retirement from tax-producing activities. Surely the authors of the PRB report don't intend to recommend such a policy, but presenting the social costs of extending life in a vacuum invites such speculation. The PRB report aptly demonstrates once again that cost-benefit calculus cannot fully inform policy-making and may even discourage responsible discussion of the key issues.

There is no question that accommodating dramatic increases in the elderly population calls for efficient planning. Such planning, however, must be based on scientifically creditable visions of the future, not speculations and approaches that are hotly contested by many demographers, epidemiologists, and economists. □

Copies of "Death and Taxes: The Public Policy Impact of Living Longer," a 16-page issue in PRB's **Population Trends and Public Policy** series, are available from PRB. Prices: \$3.00 per single copy; 2-10 copies, \$2.30 each; 11-50 copies, \$1.90 each; 51 or more, \$1.50 each.

Copies are also available of PRB's **Population Bulletin** "America's Elderly in the 1980s" by Beth J. Soldo, published in 1980. Prices: \$4.00 each; 2-10 \$3.00 each; 11-50 \$2.50 each; 51 or more, \$2.00 each.

Orders of \$20.00 and under must be prepaid and include \$1.00 for postage and handling. Send order and remittance to PRB, Circulation Dept., PO Box 35012, Washington, D.C. 20013. (Checks made payable to the Population Reference Bureau.)

Elderly Migration to Sunbelt Has Plus and Minus Effects

Elderly migration to the Sunbelt is enriching the economies of Florida and Arizona while at the same time burdening the resources of California, says the most recent 16-page issue of PRB's Population Trends and Public Policy series.

University of Virginia sociologist Jeanne C. Biggar, author of the new report entitled "The Graying of the Sunbelt: A Look at the Impact of U.S. Elderly Migration," found that between 1975 and 1980 Florida and Arizona attracted the wealthiest retirees among those going to the Sunbelt.

In contrast, California and Texas received the largest share of elderly over 75, and these individuals were more likely to be disabled, living in an institution or living below the poverty line than elderly migrants to other Sunbelt states. In 1980 14 percent of California's elderly newcomers were receiving welfare payments in the form of Supplemental Security Income (SSI), more than twice as many as among elderly settling in Texas and more than three times as many as elderly settling in Florida and Arizona.

Twenty-seven percent of California's elderly settlers came from outside the U.S., compared with 8.9 percent of those coming to Texas and approximately 2 percent coming to Florida and Arizona.

Overall, between 1975 and 1980 nearly one million persons 60 and older—more than 500 each day—moved to the Sunbelt states. Biggar found that the South gained at the North's expense: The majority of migrants to the Sunbelt were in their early retirement years, well-educated, financially secure, and usually accompanied by a spouse. However, those leaving the Sunbelt were more likely to have incomes below the poverty line, be disabled, widowed or living in an institution.

These migration patterns, says Biggar, may mean that some Northeastern states will experience both a shrinking tax base and a greater demand for local services for the

aged as they lose their younger, more independent elderly to the Sunbelt and receive older, more dependent elderly in return.

Biggar expects retirement migration to continue if not increase during the decade ahead. Her report outlines the impact it will have on state and federal policy and the economies of both Northern and Southern states.

Dr. Biggar's report is part of a seven-year study funded by the National Institute on Aging. □

Copies of "The Graying of the Sunbelt: A Look at the Impact of U.S. Elderly Migration" are available from PRB. Prices: \$3.00 per single copy; 2-10 copies, \$2.30; 11-50 copies, \$1.90; 51 or more copies, \$1.50.

Soil Erosion Undermining World Economy

The loss of topsoil on the world's cropland will be a crucial factor in decreasing world food productivity, a trend which could eventually lead to higher food prices and persistent famine, according to "Soil Erosion: Quiet Crisis in the World Economy," the latest Worldwatch Paper published by the Worldwatch Institute. The study, the first to calculate world soil losses from erosion, estimates the loss of topsoil from cropland at 25.4 billion tons per year, in excess of the 2 to 5 tons of topsoil per acre which is naturally formed. The loss is projected at 7 percent per decade, roughly equivalent to that of oil reserves. The authors, Lester R. Brown and Edward C. Wolf of the Worldwatch Institute, point out that the very practices which cause excessive erosion, such as the intensification of cropping patterns and the plowing of marginal land, often lead to

short-term production gains, even surpluses, creating an illusion of progress and a false sense of security, for the phenomenon of soil erosion is a quiet crisis, one that is not widely perceived.

Population growth contributes to the problem, often forcing cultivators to adopt detrimental farming practices, such as shortening soil-strengthening rotation cycles, resulting in decreased productivity.

In major food producing countries like the U.S., pressure to expand exports has led to unsustainable rates of soil erosion, the authors said. The USSR, another of the world's major food producers, is losing even more soil than the United States. Efforts to reduce massive grain imports have forced the Soviets to plow marginal lands and reduce dryland fallow. The other two members of the world's "big four" food producers, India and China, are also suffering massive topsoil losses, according to the study. In an interview, Brown said that arresting this loss cannot be done by individual farmers alone and will require government assistance.

Although no country's soil is adequately secured, there are occasional signs of progress, the study found. One is the trend toward reduced tillage in some countries, such as the United States, which is triggered by farmers' desire to reduce fuel consumption and operating costs. □

Copies of Worldwatch Paper 60, "Soil Erosion: Quiet Crisis in the World Economy" by Lester R. Brown and Edward C. Wolf, are available from PRB. Orders of \$20.00 and under must be prepaid and include \$1.00 for postage and handling. Send order and remittance to PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013.



PRB Hosts Gala Awards Dinner



Lester R. Brown (left) speaks, as Mildred Marcy, Chair of PRB's Board, and R.E. "Ted" Turner listen.

The population world was out in force Oct. 18 for the 55th Anniversary PRB Awards Dinner, held at the University Club in Washington, D.C.

R.E. "Ted" Turner, the President of Turner Broadcasting, was there to receive PRB's Special Award for Population Advocacy Within the Business Community. Oscar Harkavy of the Ford Foundation's Urban Poverty Program received the Award for Outstanding Contribution to the Field of Population. Dean Morrison, President of the Alice G. Morrison Memorial Foundation, received a special PRB Award for his advocacy of public education as a means of alleviating the world's population problem. And PRB's own circulation manager Jacqueline Majewski received a special award for 25 years of service to PRB.

The assembled guests heard a report on the "State of the World—1985" from Lester R. Brown, President of Worldwatch Institute, a new PRB Honorary Fellow, and the evening's featured speaker. Brown warned his audience of the ecological consequences of exceeding the earth's carrying capacity, consequences that include adverse regional climate changes.



Lester Brown, the Hewlett Foundation's Anne Firth Murray, and the State Dept.'s Amb. Richard Benedick.



Dean Morrison receives his special PRB Award.



Oscar Harkavy (center) is flanked by PRB President Thomas Merrick (left) and President Emeritus Robert Worrall.



Journalists attending included Randolph E. Schmid of AP.

photos by Thom Taylor

Cancer Mortality, Election Demography Themes of Next PRB Seminars

PRB is well into its 1984-85 series of noon-hour seminars entitled "Population Today: Myths and Realities," as it prepares for the next session, to be led by Robert Parke. The topic of that November 14 seminar is the demography of cancer mortality change. Parke, a program director in the Division of Cancer Prevention and Con-

trol, National Cancer Institute of the National Institutes of Health, will discuss such issues as how to measure cancer outcomes as well as the implications of the declines in death rates for heart disease and stroke for future cancer mortality.

This is PRB's fifth season of monthly seminars, brown-bag lunch events which feature population experts and are designed for members of the population field. In September, Fred Pinkham of the Population Crisis Committee, Philander Claxton of the

World Population Society, and PRB's Art Haupt shared their insights on the 1984 International Conference on Population in Mexico City. October featured Robert Fox of the Inter-American Development Bank speaking on urbanization in Latin America.

On December 5, PRB is pleased to present Richard M. Scammon, the nation's leading analyst of election results, who will discuss the demographics of the 1984 vote. Further information on the seminar series can be obtained by phoning PRB. □

LETTERS TO THE EDITOR

Thank you very much for the excellent publication "Death and Taxes" which I read with great interest and admiration. I have followed your material for a long time and, as others have told you, I think you make a great contribution to forcing us to look at some unpleasant facts. Please keep up the good work. Thank you again.

Sincerely,
Richard D. Lamm
Governor of Colorado

A special kudo for Art Haupt in recognition of his coverage of the Mexico City conference. Art must have been one of the busiest of the hundreds there, keeping up with what transpired officially and in the corridors. His day by day chronicle conveys a feeling of participation and insight into the ways by which such a gathering arrives at a consensus, including the role of a chairman who can hear selectively. Seen from here, with the aid of the media, one could easily have expected that this account would deal with heroes and villains. The fact that Art refrained from such descriptions adds to the value of his report.

Sincerely,
Conrad Taueber

You will be happy to know that we in Bangladesh have opened a television series on the mythical island continent of Populandia. The series on our TV channels has generated widespread interest among the audience about the mini-continent, and is based on the articles published in the PRB publication INTERCOM. There is an ever growing interest on the part of our TV audience about the untold stories of this mysterious new continent.

Sincerely
Tofazzal Hossain
Population Programme Officer,
Ministry of Information,
Dhaka, Bangladesh

Populandia update coming in Dec. PT. —Ed.

Population Growth Quells Progress, Says New IPPF Handbook

The world is making progress in meeting all the main basic needs—for food, housing, water, energy, jobs, health and education—but in every case population growth is compounding the problem.

This is the main finding of a handbook on *Human Numbers, Human Needs* published by the International Planned Parenthood Federation, as a contribution to last summer's world conference on population in Mexico City.

It concludes that partly because numbers have grown so fast in the past 20 years, there are today more people malnourished, more without clean water or proper sanitation, more without a place in primary school or adequate housing, more in need of jobs and more searching in vain for fuelwood than at the beginning of two development decades.

The report points out that the most decisive phase of population growth lies immediately ahead. In the 45 years from 1980 to 2025 human numbers are expected to increase from 4.4 billion to 8.2 billion, according to the UN medium projection. In that time Asia's population is expected to more than double and Africa's to increase nearly four times.

The handbook concludes that "slower population growth can make it easier to meet human material and social needs, with better quality goods and services, with less environmental disruption."

IPPF has supplied PRB with a limited number of copies of *Human Numbers, Human Needs* for sale (\$5 plus \$1 postage and handling per order) to interested readers. An audio-visual kit is being developed to accompany the publication and will be available through PRB later this year. Send orders to PRB, Box 35012, Washington, D.C. 20013.

Dorothy S. Thomas Award: Call for Papers

Pre- or postdoctoral graduate students are invited to submit papers for the 1985 Dorothy S. Thomas award, a \$1500 prize. The award, established by the Population Association of America in honor of Dr. Dorothy S. Thomas, is presented annually for the best paper submitted in the areas of particular interest to Dr. Thomas, the fields of internal migration or the interrelationships among social, economic, and demographic variables.

The research for the paper, whose length should not exceed that of a journal article, must be undertaken while the author is pre- or postdoctoral student resident in an accredited graduate program, and pursuing quantitative empirical studies in migration or economic-demographic-social interrelations. The award may be shared by two or

more students who have submitted a collaborative study, but a paper jointly authored by a student and a member of the graduate faculty is not eligible. An individual remains eligible to compete for the prize (with a paper researched during graduate studies) for one year following completion of those studies. Published papers that meet the above requirements are acceptable. A contestant should request two faculty members from his/her academic department to submit letters of endorsement concerning both eligibility and research potential.

Five copies of the paper and nominating letters should be sent to Dr. Joan M. Herold, Division of Reproductive Health, Building 1, Room 4409, Centers for Disease Control, Atlanta, Georgia 30333, so that they arrive by January 9, 1985. Announcement of the award will be made at the Annual Meetings of the PAA in March 1985. □

WORLD FOOD NEWS

Recent studies on the role of women in agriculture all point to the same conclusion—women contribute far more to food and agricultural production than has generally been acknowledged.

In fact, far from limiting themselves to household chores, rural women in developing countries spend most of their working time producing and processing food or earning cash—less than half is spent feeding, clothing and caring for their families.

To focus on the importance of women in agriculture, the Food and Agriculture Organization of the United Nations (FAO) surveyed 82 developing countries outside Latin America. On average, women made up 42 percent of the agricultural labor force. Their share ranged from 46 percent in sub-Saharan Africa and 45 percent in Asia to 40 percent in the Caribbean and 31 percent in North Africa and the Middle East.

Women workers are particularly important during and after the harvest. They clean, thresh and dry grain, dry fish and make cheese and



yogurt.

Women are often very involved in keeping small animals, such as poultry, goats, pigs and rabbits. They do the milking and they process and market milk and other animal products locally.

In many countries women are actually taking on a larger share of the farming workload as the men migrate to cities and towns to find paid work. In addition they often must look after their families on their own. The proportion of households headed by women is increasing: it has reached one in five in sub-Saharan Africa.

Failure to appreciate the contribution of women to agricultural production can be partly explained by the tendency in official statistics to concentrate on wage labor or cashcrop production, traditionally dominated by men. In addition, women are often underrepresented in the policymaking areas of

government and in agricultural extension and training services. Less than 10 percent of extension workers are women, according to a recent survey by FAO.

If current trends continue, however, this picture should change in the future. Women, for example, now account for 15 percent of agricultural students in Africa. □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

Wilhelm Winkler 1884-1984

Austrian demographer and statistician Wilhelm Winkler died recently shortly after celebrating his 100th birthday. Winkler, a former vice president of the International Union for the Scientific Study of Population, was known for his development of methodology for analyzing population data. An honored professor as well as academic dean during his illustrious career, he continued to have his work published well into his eighties. His son, Othmar Winkler, is on the faculty of Georgetown University. □

Population Update

Estimated United States Population:

As of July 1, 1984	236,634,000
As of July 1, 1983	234,496,000

The above estimates include armed forces overseas and are from U.S. Bureau of Census, *Current Population Reports*, Series P-25.

Estimated World Population:

As of November 1984	4,790,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1984 population given on the 1984 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: June 1984

Item	12 months ending with June					
	Number			Rate		
	1984	1983	1984	1983	1982	1981
Live births	3,632,000	3,692,000	15.5	15.9	15.9	15.9
Deaths	2,031,000	2,008,000	8.6	8.6	8.5	8.8
Natural increase	1,601,000	1,684,000	6.9	7.3	7.4	7.1
Marriages	2,461,000	2,477,000	10.5	10.6	10.6	10.6
Divorces	1,161,000	1,185,000	4.9	5.1	5.2	5.3
Infant deaths	39,100	40,600	10.8	11.0	11.4	12.2
Population base (in millions)	...	...	234.9	232.7	230.5	228.3

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source. *Monthly Vital Statistics Report* (Vol. 33, No. 6) from the National Center for Health Statistics.

POSITIONS/ PROFESSIONALS

Senior Research Associate, The Urban Institute, to participate in the design and management of ongoing demographic research studies. Experience: family and household demography, immigration to U.S., and/or population and development interactions in less developed countries.

Research Associate, The Urban Institute, to participate in design and management of immigration studies. Experience: economic, fiscal, and labor market impacts of immigration, or understanding of demographic, economic, social, and/or political dimensions of immigrant assimilation.

Both positions above require: PhD in economics, sociology, demography, or related field; previous demographic training; experience with large-scale data bases; strong quantitative and writing skills. Contact: Employment Manager, The Urban Institute, 2100 M St. N.W., Washington, D.C. 20037.

Rockefeller Foundation Social Science Fellowship Programs in Population Studies. Applications will be accepted through Jan. 31, 1985 for two year fellowships to be taken up in mid or late 1985. Highly qualified social science graduates (who have received, or expect to receive, their PhDs after January 1981 to September 1985) will be selected for appointment as scholars at centers in less developed countries. Applicants (U.S. or Canadian citizens or permanent residents) must have demonstrated interest in population aspects of international development work. Contact: Fellowship Office, Rockefeller Foundation, 1133 Ave. of the Americas, New York, NY 10036.

CORRECTION

September's Spotlight on Mexico in PT contained a misleading typographical error, as more than one sharp-eyed reader pointed out. Mexico's infant mortality rate is 55 infant deaths per 1000 live births, not the 550 mistakenly printed. □

TAKE A NUMBER...

Workus Interruptus: Fifty-four percent of working women reported experiencing a work interruption of at least 6 months in order to take care of a home or family. Only 1 percent of men had taken similar leaves, according to a recently released survey by the Census Bureau. Black women workers were less likely than white women to have interrupted their work for family reasons, but about one-quarter of black women were jobless for at least half a year because they couldn't find work, compared with about one-tenth of white female workers. Women make, on average, \$4.38 per hour, 63 percent of the \$6.92 earned by men, according to this 1979 household survey report. The interrupted labor results in lower levels of general work experience, which would account for some of the disparity in average incomes between women and men. The study, however—although experimental—concludes that work experience and interruptions account for little of this gap. The report estimates that the difference in earnings would be reduced by only 12 percent if women were assumed to have the same levels of experience and interruptions as men.

China's Labor Force: Additional tabulations from China's 1982

Census show that the Chinese labor force reflects the country's very early stage of development. Fully 92 percent of employed persons were in manual, rather than "mental," occupations. Three-fourths of the workers are in farming, forestry, animal husbandry, and fisheries.

The Real Americans: 1.4 million American Indians were identified in the 1980 Census, an increase of over 72 percent since 1970. This increase is not only a result of natural increase but also of improved census procedures and a greater tendency in 1980 to identify as Native American, according to a report from the Census Bureau. More than half of American Indians lived in the West, with California, Oklahoma, Arizona and New Mexico accounting for 46 percent of the total Indian population. Slightly more than one-third were living on Indian lands in 1980, with 70 percent of those living in Indian areas on 278 reservations. Indians were first counted in the 1860 Census, not always with great care. The 1930 Census did make a special effort and counted about 330,000 (there are estimated to have been almost 1 million in precolonial days). It now appears that American Indians will assume greater statistical importance since they identify themselves more often on censuses and probably have higher fertility than the general U.S. population.

addenda...

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CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

ABORTION AND THE POLITICS OF MOTHERHOOD by Kristin Luker. Berkeley: University of California Press, 1984. 324 pages. \$14.95. ISBN 0-520-04314-6

Prof. Luker states in her preface that if she has done her job right, a reader who has already made up his mind about abortion issues will conclude that the author has been unfairly generous to the reader's opposition and unfairly critical of the reader's stand.

The first part of the book offers a history of the abortion debate. Until the late 1950s, the debates were primarily technical ones among physicians. Later, moral issues came into the foreground and the questions of the personhood of the embryo became the subject of passionate discussions. The second part is devoted to the thinking of people active in the present-day debate. Luker includes extensive excerpts from interviews with abortion activists to highlight the different claims and underlying philosophies. A final chapter sets out the essentials of the contending arguments and permits the author to speculate how the differences might ultimately be narrowed. For once a dust jacket describes a book accurately: this is a balanced, comprehensive, and lucid study.

—Conrad Taeuber

INTERNATIONAL HISTORICAL STATISTICS: The Americas and Australasia by B.R. Mitchell. Detroit: Gale Publishing Company, 1983. 949 pages. \$95.00. ISBN 0-8103-0520-8.

If you wanted to know the output of wine from Brazil between 1890 and 1934 this book would be the place to look. *International Historical Statistics* has the official figures of seemingly any social or economic aspect of the history of the Americas and Australasia.

Each section is introduced by a few paragraphs about the limitations of the data. Lack of data, inconsistent definitions between nations and within nations at different times, and unreliability of sources cited as typical are obstacles to accurate statistical analysis. Mitchell reminds us that we usually cannot check up on the reputations of past compilers. Prior to the 20th century, statistics were often collected for military or taxation purposes. Such figures were probably distorted by respondents' understatement of their age or wealth. Exaggeration of population and wealth in an attempt to impress enemies and bolster its own image is perhaps a more recent development. One

contribution that this book makes to the statistical field is its emphasis that numbers are as much historical artifacts as more subjective records.

—Anthony Agresta

SEX SELECTION OF CHILDREN, edited by Neil G. Bennett. New York: Academic Press, 1983. 256 pages. \$35.00. ISBN 0-12-088860-2

The authors in this collection write about diverse aspects of sex selection in childbearing. Sex selection technology reveals some not so surprising differences in status between the sexes even in countries with egalitarian pretensions. The authors write about ways of measuring preferences in various cultures, and the economic basis for them. They discuss methods and consequences of the technologies that allow for selection (whether to determine family composition or sequence of children), and develop models that show their use. Also analyzed are the ethical issues of pre- and postfertilization methods of selection.

One chapter analyzes the impact of selection on fertility, asking whether parents satisfied with their family's sex composition will stop producing children, or whether they will go on to have more children, knowing that they run no risk of having a "wrong" sex child. Several authors examine the tricky legal and policy implications of decisions on sex selection; restrictions on sex-selective abortions might, for example, limit a woman's access to abortion. Should sex selection research be encouraged? Who will use the technology if it is perfected? Although folk methods have been practiced for ages, the new technology renders sex-selection a complex practicality.

—Margaret Greene

EVALUATING POPULATION PROGRAMS: International Experience with Cost-effectiveness Analysis and Cost-benefit Analysis. By Ismail Sirageldin, et al., eds. New York: St. Martin's Press, 1983. 534 pages. \$40.00.

The book is the outcome of an International Workshop on Cost-Effectiveness and Cost-Benefit Analysis of Population Planning Programs at St. Michaels, Maryland in 1981, organized by the Population Center of the Johns Hopkins University and supported by the Agency for International Development. It covers a wide spectrum of theoretical and methodological aspects of the cost-benefit, cost-effectiveness debate in a series of general essays. Part Two applies this discussion to various country studies in Africa and Latin America as well as two Asian countries, India and Thailand.

Despite the difficulty of measuring fertility regulation programs in monetary terms, the reality is that allocation decisions regarding funds generally are made on the

basis of cost benefit analysis. While the question of impact of family planning programs on fertility reduction is not expected to be resolved soon, the future environment will probably involve greater financial accountability. Furthermore, greater competition for funding and more selective resource allocation is expected to precipitate the demand for quantitative cost-benefit analyses and evaluation of outcome. To that end this book makes an important contribution.

—Alex von Cube

PUBLICATIONS RECEIVED

AN EXPERIMENT ABOUT FAMILY PLANNING ATTITUDE CHANGE, by Chaonan Eddie Chen. Nankang, Taiwan: Institute of Economics Academia Sinica, 1983. 154 pages.

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SPOTLIGHT

JAPAN

Population, 1984: 119,900,000
 Population per sq. miles: 813
 Births per 1,000 pop., 1982: 12.9
 Deaths per 1,000 pop., 1982: 6.1
 Annual rate of population growth, 1984: 0.7 percent
 Area: 147,470 sq. miles (slightly smaller than California)
 Major exports, 1983: Manufactures 96% (28% automobiles, 25% machinery, 13% iron and steel) — \$145 billion
 Major imports, 1983: 50% fossil fuels, 19% manufactures, 13% foodstuffs, 5% machinery — \$125 billion

Lying off the east coast of the Soviet Union and the Koreans, Japan forms a 2,000 mile archipelago of about 3,300 islands, the chief ones being Hokkaido, Honshu, Shikoku, and Kyushu. The country is one of the world's most densely populated areas and must deal with a low proportion of land available for farming. But highly efficient agricultural methods enable the 120 million Japanese to be self-sufficient in rice, although they must import about half the cereals and soybeans they consume.

With few natural resources, Japan must generate export earnings to purchase raw materials needed for industry as well as food. This creates a continuing strain on the economy.

One of the most striking features of Japan's recent demographic history was the very sharp postwar decline in the birth rate. In 1947, abortion on demand was legalized and the birth rate dropped from 34.3 per 1,000 population to 17.2 in just 10 years. At first, this drop had the desired effect—fewer mouths to feed, but today Japan is facing many of the same problems of other industrialized countries with aging populations. Wages tied to seniority in an aging labor force have raised the specter of a Japanese labor

force priced out of the market, and future expenditure for pensions and old-age medical care could rise from the present 10 percent of national income to 30 or 40 percent.

Japanese fertility is at about the same level as the U.S., 1.7 children per woman, a rate below that necessary to insure long-term population growth. One dramatic example from Japan of the effects of modern family planning is the large drop in births in 1966, the "year of the fiery horse." Superstition holds that a woman born in this year, which comes every 60 years, will have a difficult life; births dropped from 1.8 million in 1965 to 1.4 million in 1966, then rebounded to 2.0 million in 1967.

Although Japan's total fertility rate is about the same as in the U.S., Japanese women actually have a preference for somewhat larger families. In a 1984 survey of married women conducted by the Population Problems Research Council and the Mainichi Newspapers, 2.6 children was given as the ideal, compared to 2.0 in the U.S. Another survey, conducted by the Ministry of Health and Welfare in 1982 gave a somewhat lower figure, 2.2 children "wanted" for wives and 2.4 for husbands.

Abortion is used primarily as a backup for contraception, which is practiced by 60 percent of married women. In the 1984 survey, 54 per-

cent of the women aged 45-49 had at least one abortion. However, attitudes indicate rather high levels of disapproval of the practice. About 80 percent of women stated that they either felt guilty or felt sorry for the fetus. In addition, a little less than half disapproved when the reason for abortion is family economic difficulties and two-thirds disapproved when the reason was simple contraceptive failure. Survey data suggest that crowding plays an important role in limiting family size. The average Japanese housing unit is only 750 sq. feet, and couples who have only one or two rooms at marriage are 2.5 times more likely to have an abortion than those with five rooms.

Japan's population has shown a continuing tendency to concentrate in a few large metropolitan areas. In 1980 Tokyo, Osaka, and Nagoya accounted for 50 percent of the total population. Those cities have, in turn, spread to suburban areas distant from the central city so that it is quite common for Japanese to commute 3-4 hours per day to and from their jobs.

Japan has been able to deal with postwar challenges by overcoming the lack of raw materials and cropland with highly efficient industry and farming methods. Nonetheless, the country must exist with its ever-present heavy dependence on overseas suppliers. And then there is the new problem of aging. Referring to the postwar decrease in the birth rate and the benefits it provided at first, economist Naohiro Ogawa told the *Wall Street Journal*, "In effect, Japan had a terrific dinner in the 1950s and 1960s. Today we are getting the bill." □



Tokyo high school students study in language lab.

Embassy of Japan

POPULATION TODAY™

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National Survey of Family Growth tracks U.S. fertility patterns. See page 2.

Sterilization, Breastfeeding on the Rise

Sterilization is now the leading contraceptive method in the U.S., though married women under 30 and unmarried women still favor the pill. Black women are more likely than white women to use the most effective female contraceptive methods—female sterilization, the pill, and IUD—although they are much less likely than white women to use contraception at first intercourse. The rapid rise in teenagers' premarital sexual intercourse recorded during the 1970s did not continue into the 1980s. The proportion of children born to ever-married women that were unwanted at conception is at its lowest level ever. However, births coming sooner than planned by young married women have increased slightly in the past decade. Infertility increased among married women aged 20-24 between 1965 and 1982. Breastfeeding has made a comeback in the U.S.

Current Contraceptive Use: 1982

Percent distribution of those using contraception by method

Characteristics	Female sterilization	Male sterilization	Pill	IUD	Diaphragm	Condom	Rhythm	Other
Total	21.9	10.8	28.6	7.3	8.3	12.2	4.0	5.7
Age								
15-19	—	0.4	63.9	1.3	6.0	20.8	2.0	4.7
20-24	3.9	3.6	55.4	4.2	10.3	10.7	3.4	7.5
25-29	13.2	5.6	35.1	10.4	12.6	10.9	4.5	6.6
30-34	27.9	15.0	16.9	9.5	8.3	12.8	4.1	4.0
35-39	41.1	17.7	5.9	7.7	4.0	11.9	4.6	5.2
40-44	44.4	22.4	1.2	6.3	4.2	11.3	4.0	5.5
White	20.8	12.1	27.2	7.0	9.0	12.9	4.0	5.7
Black	28.0	1.5	39.1	9.4	3.6	6.4	3.2	6.8

From the Bulletin.

A total of 7,969 women were surveyed by specially trained female interviewers in hour-long interviews in the women's own homes. The questions covered the women's histories of pregnancies and births, contraceptive use, marital status and employment, their future childbearing expectations, use of family planning and infertility services, and a wide range of social, economic, and demographic characteristics.

The first overview of findings from interviews between August 1982 and February 1983 has been released in PRB's *Bulletin* for December 1984, "Understanding U.S. Fertility: Findings from the National Survey of Family Growth, Cycle III." The authors are NSFG staff director William Pratt and his colleagues William Mosher, Christine Bachrach, and Marjorie Horn.

Highlights of the findings presented in the PRB *Bulletin* include:

- Fifty-five percent of American women aged 15-44 were using contraception in 1982: 68 percent of currently married women, 35 percent of never-married women, and 24 percent of women aged 15-19.
- Sterilization was used by 33 percent of contraceptors overall (22 percent, female sterilization; 11 percent, male sterilization), followed by the pill (29 percent), condom (12 percent), diaphragm (8 percent), and IUD (7 percent). (NCHS now refers to sterilization as a "contraceptive.")
- The pill was used by 53 percent of never-married contraceptors and 64 percent of contracepting teenagers aged 15-19, but only 1 percent of contraceptors aged 40-44. About 8 percent of contracepting women aged 20-24 reported that they or their partners had been sterilized; at ages 40-44 the proportion was 67 percent.
- Seventy-eight percent of black contraceptors in 1982 were using sterilization—almost all female sterilization—the pill, or IUD, compared to 67 percent of white contraceptors.
- Catholic women using contraception are more likely than their Protestant counterparts to use the rhythm methods (6 versus 3 percent) but nearly as likely to use the pill (28 versus 30 percent).

Continued on page 8

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Famine Worsens in Ethiopia

The past two years have seen an already bad food situation in Ethiopia reach devastating proportions. Yet only in the past six weeks has the famine been in the forefront of U.S. consciousness. After the Oct. 23 airing on NBC of BBC film footage depicting the misery of millions of starving Ethiopians, the rest of the media ensured virtual daily coverage of the situation, with much commentary on causes of and solutions for the problem. After the broadcast, the American public responded with millions of dollars in pledges. The U.S. Agency for International Development (AID) also increased its aid.

In the past Ethiopia has suffered severe famine, but not of this magnitude. The most recent such famine, in 1973-74, resulted in an estimated 200,000 deaths. Projections of the potential death toll from this famine vary from 500,000 to more than a million.

The suffering in Ethiopia is not isolated. The crippling drought there has struck or will strike much of sub-Saharan Africa as well. AID Administrator M. Peter McPherson reports that famine threatens at least six of the continent's other countries in the coming months—Niger, Mali, Chad, the western Sudan, Kenya, and Mozambique—and that some 20 African countries in all are facing serious food difficulties. (See World Food News, page 10.)

Ethiopia, however, represents an especially difficult case for those offering relief. The country's political situation has caused immense complications. Depending on what commentary the reader consults, the Ethiopian government is at fault for ignoring the famine while spending an estimated \$100 million to celebrate the 10th anniversary of its Marxist regime, for perpetuating the country's debilitating civil war, and for not allowing the food aid it has received to be expeditiously distributed. Alternatively, the U.S. is at fault for not responding sooner and/or more generously to the UN Food and Agriculture Organization's estimates of food needs, or to Ethiopia's pleas for aid. The U.S. has also been accused of allowing political concerns to override the clear need

for action.

In any case, the current scenario presents a unique opportunity for international cooperation. Already a coordinated effort has been brought about where Western food has been airlifted into stricken regions by Soviet aircraft. And Eastern bloc countries such as Bulgaria have pledged food and transportation aid in an example of political oneupmanship which benefits the starving in Ethiopia. Since the U.S. and other Western nations have the food, and the Soviet Union has the necessary political leverage, Ethiopia would seem to be a perfect test case for East-West cooperation. □

Depo-Provera Nixed

Depo-Provera should not be approved for contraceptive use in the U.S., a Public Board of Inquiry has recommended. The outside board was appointed in 1982 by the Food and Drug Administration (FDA) to review the status of the controversial drug, and its decision has been long awaited. The point of contention regarding Depo-Provera, an injectable long-lasting progestin, has been whether it will cause cancer in its users. Tests performed by the Upjohn Company, the manufacturers of the drug, have shown Depo to induce cancer in laboratory dogs and monkeys. Upjohn maintains that the tests are not conclusive for human beings. The Board of Inquiry, however, decided that the test findings cannot be dismissed as irrelevant to human beings without contrary evidence, which it says does not exist.

Upjohn says it plans to "take issue with" the Board's report. It estimates that 5 to 9 percent of women in the U.S. would use the drug if it were approved by the FDA. The main attraction of Depo-Provera is its ease of use. A woman injected once every three or six months is protected from pregnancy with an efficacy rate comparable to the pill.

Unlike most drugs under FDA scrutiny, Depo has been used by millions of women in some 80 countries worldwide since 1967. The results of its use appear to be favorable, though usage studies have been few. Increased evidence of cancer was not, however, found in the few studies among women

which were conducted. Depo has been endorsed by several prominent organizations, including the World Health Organization, the International Planned Parenthood Federation's Medical Advisory Panel, and the American College of Obstetricians and Gynecologists. Opponents of the drug include the National Women's Health Network and the Health Research Group (a Ralph Nader organization).

Though its cancer risk is not known, Depo-Provera's side effects are. For many women, it disrupts menstruation, causing bleeding and spotting. It can also bring on amenorrhea (no menstruation) which continues as long as the drug is used. Side effects also include weight gain, possibly the raising of blood glucose levels, and some times dizziness and nausea. The widely used pill has side effects as well, including an increased risk of circulatory disease (especially for smokers), headaches, and heightened blood pressure. □

Natural Disasters: Not So Natural?

A report just issued by Earthscan, and the Swedish Red Cross suggests that an increase in the number of natural disasters since the 1960s may not be a consequence of nature after all.

In Ethiopia, deforestation caused the runoff of what rain there was, which contributed to the current famine. In that case, rainwater was not absorbed by the ground. It is thought that, at the beginning of this century about 40 percent of Ethiopia was covered by vegetation. That now shows as 4 percent in satellite photographs.

In Bangladesh, runoff from the partially deforested Himalayas is likewise thought to be the chief cause of this spring's flooding. The resulting delay in planting will likely cause food shortages in that country in the near future. As always, these problems fall more upon the poor than on other classes. Not only does poverty put restraints on people's ability to cope with disaster, but the necessity to try to eke a living from useless land compounds the problem.

Copies of the report are available for \$5.50 from: Earthscan, 1717 Massachusetts Ave., NW, Washington, D.C. 20036. □

SURVEY REPORT

Dominican Republic

The Dominican Republic has taken its third national fertility survey in eight years, the most recent being the 1983 Contraceptive Prevalence Survey. The results of this survey, conducted in collaboration with Westinghouse Health Systems and with funding from the U.S. Agency for International Development, have just

FROM THE EDITOR'S DESK

It's been a year of major population events. A year that saw the entire philosophy of population programs become an area of controversy, at least in the U.S.; the convening of the International Population Conference in Mexico City; the cresting of the drought and famine in Ethiopia and other sub-Saharan countries (see page 3), as well as other issues.

With this issue, incidentally, *Population Today* completes its first year as PRB's chronicle of the world's population news. And from this vantage, the most striking aspect of the news that swirls past (which we try our best to present to our readers) is that by gum, demography has consequences—or at any rate, affects issues far and wide. To the extent *PT* has conveyed the sense that everything-is-connected-to-everything-else-demographically, we've succeeded in our mandate of communicating the real population news. Look for expanded coverage of the world of population in our issues in 1985 and beyond.

—Art Haupt

been released.

The survey data indicate that fertility has continued to drop in the country, from a total fertility rate of about 5.1 lifetime births per woman at the 1975 survey to 4.1 in 1983. A large proportion of this drop, about two-thirds, can be attributed to sharp fertility decreases among women aged 35 and over.

The country is about one-third the size of Florida and its present 6.3 million population is expected to grow to about 13 million by 2020, finally stabilizing around 15 million, assuming that the "two-child family" is reached by the year 2010.

Despite the recent decline in the birth rate, the survey gives evidence that preferred family size is still quite high. Only 15 percent of the sample said that they considered 2 children or fewer to be the ideal and about 40 percent thought that 5 or more children would be desirable. While that may be the ideal, a larger number of women said that they wished to cease their actual childbearing earlier. Eighty percent of the sample with 3 living children stated that they wanted no more children.

When questioned as to their knowledge and use of contraception, 46 percent of the currently married women said that they were using some method; female sterilization accounted for slightly more than half of those limiting family size, with the pill a distant second.

The current policy of the government is to reduce the rate of population growth by means of fertility reduction and to decrease unacceptable levels of mortality. Much of the success of the former will depend

upon the distribution of family planning services in this mountainous country and some shift in traditional family size preferences. □

0 Little Town of...



If Santa were to enlist the aid of demographers or geographers in planning his incredible one-nighter, how would they advise him? Well, they might dive into one of the big demographic datasets and pull out population concentration and distribution charts, or these days, match Santa's toy selection to the U.S.'s "lifestyle clusters." But there's another way, and it's more fun.

As he wings across the winter sky, Mr. Claus encounters many towns with singular names. After a national blur of Washingtons, Jeffersons, Springfields, and Yarmouths, it must be a nominal relief to come upon Frostproof, Fla., or Welcome, La., Zap, N.D., Love, Okla., Eclectic, Ala., George, Wash., Ten Sleep, Wyo., Covert, Mich., Hygiene, Colo., What Cheer, Iowa, Boring, Ore., not to mention Pennsylvania's many colorful monikers.

But to get truly on his way, Santa might steer toward places with seasonal names. Bethlehem, Pa., of course, but how about a few others: Angelica, N.Y., Blessing, Tex., Paradise, Utah, Star, N.C., Star City, Ind., Holiday Hills, Ill., Snowflake, Ariz., Holly, Colo. and Mich., and St. Joseph, Ill.

We were unable to turn up any towns with such names as Santa Claus, Kris Kringle, or Johnny Mathis. But Santa probably smiles every year when he arrives in Christmas, Mich., pop. 750; or Noel, Mo., pop. 1,161. □



Demographers Seek New Ways to Study the Family

Changes in the basic unit of human society—the family—may be outstripping current methods of measurement and analysis. Responding to a growing sense of urgency among family demographers that old approaches to family research are no longer adequate, 30 specialists in the field met in West Berlin, Sept. 3-7, 1984, to compare research and approach new ways of studying family patterns and change.

Looking at major transitions in the cycle of families, such as divorce, remarriage, children leaving home, widowhood and retirement, the researchers agreed that family events today are more heterogeneous and harder to classify than in the past.

The types of family groups are becoming more varied, the pace of transition from one type of family to another is quickening, the probability that an average individual will experience more than one family type in the course of a lifetime is increasing, and the spectrum of non-marital unions is widening.

The consensus heard at the conference was that "the years of brushing aside these problems are over." Demographers around the world must abandon old classifications, such as single, married, divorced, widowed, and seek new concepts and new techniques to describe and measure family processes.

The need for demographers to develop innovative approaches to

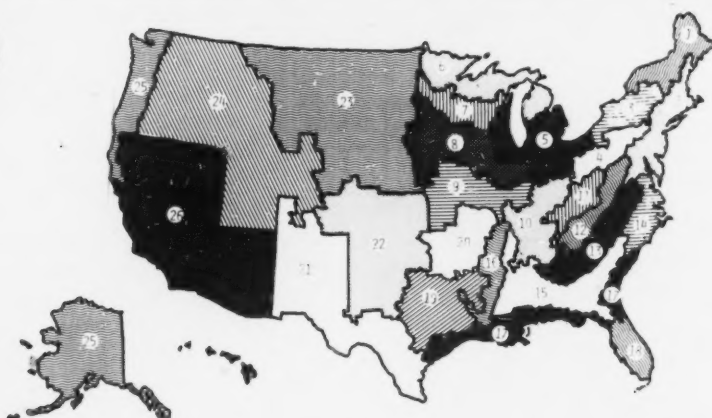
family research is important for policy reasons as well as for the study of population trends. The conferees particularly stressed the impact of early changes in family patterns for the kind of social support people can turn to in later life.

Examples of issues raised include: the effect of divorce on rates of children returning home; how higher levels of divorce and remarriage might affect the proximity of adult children to their older parents; how the kinds and amounts of support, sustenance, and financial assistance provided by older people's families are affected by kinship ties to the older generation.

A major conclusion of the conference was that greater effort must be made to coordinate the work of demographers with that of specialists in other fields: sociologists, anthropologists, and social workers. While demographers, for example, have developed intricate models to simulate the numbers of close relatives available to future generations of older people, there has been little attempt to pass from computer predictions of kin to assessment of what these numbers mean in terms of kin potentially able and willing to provide actual care.

The conference, "The Demography of the Later Phases of the Family Life Cycle," was sponsored by the International Union for the Scientific Study of Population (IUSSP) and the German Association for the Scientific Study of Population. The sponsors plan to publish a collection of papers from the conference at a later date. □

SPEAKING GRAPHICALLY



A few years ago, demographer Calvin Beale of the U.S. Dept. of Agriculture, who closely follows U.S. population geography, came out with a map, redrawn by PRB above, dividing the nation into 26 subregions based on population, economic, and geographic cohesiveness. (See names below.)

Such a map has many demographic uses—for example, economists would probably find out-migration from Beale's "Northern Appalachian Coal Fields" more significant than out-migration from West Virginia per se. But stare at the map long enough, and you start to wonder—why aren't the U.S.'s state lines more like this? Tradition and Law aside, the 26 subregions probably make more geo-administrative sense as states than the 50 present ones. (Though one could argue that the very heterogeneity of many states is what has kept them healthy.) Anyway, the grandiose process of renaming the states has a kind of charm; why not, for openers, "Mohawk," "Palmetto," "Augustaton," "Ozark," and "Dune"?

Beale's subregions: 1. Northern New England—St. Lawrence; 2. Northeastern Metropolitan Belt; 3. Mohawk Valley and N.Y.-Pa. Border; 4. Northern Appalachian Coal Fields; 5. Lower Great Lakes Industrial; 6. Upper Great Lakes; 7. Dairy Belt; 8. Central Corn Belt; 9. Southern Corn Belt; 10. Southern Interior Uplands; 11. Southern Appalachian Coal Fields; 12. Blue Ridge, Great Smokies, and Great Valley; 13. Southern Piedmont; 14. Coastal Plain Tobacco and Peanut Belt; 15. Old Coastal Plain Cotton Belt; 16. Mississippi Delta; 17. Gulf of Mexico and South Atlantic Coast; 18. Fla. Peninsula; 19. East Texas and Adjoining Coastal Plain; 20. Ozark-Ouachita Uplands; 21. Rio Grande; 22. Southern Great Plains; 23. Northern Great Plains; 24. Rocky Mountains, Mormon Valleys, and Columbia Basin; 25. Northern Pacific Coast and Alaska; 26. The Southwest and Hawaii.

Correction

Two unfortunate typos appeared in Table 1 of the "Dynamics of Population Momentum" by Murray Gendell, which was published in the November 1984 *PT*. The proportion of Philippine women of reproductive age for 1960-65 should have read "21.8 percent;" the general fertility rate projected for women of reproductive age in 2020-25 should have read "62" per 1,000 women. *PT* regrets the errors. □

DEMOGRAPHER'S

Quebec: The Empty Cradle

by André Lux

Quebec Province, or P.Q. as it is often abbreviated, has been something of a demographic and linguistic anomaly throughout its history. Fewer than 10,000 French colonists settled in New France between 1608, when Champlain founded Quebec City, until British conquest in 1760. At that time, it seemed that the 60,000 French residents of what is now Quebec Province would soon be assimilated. This was not to be, and at the time of the 1981 Census the province's population was 83 percent French speaking. French is the official language and is used exclusively in the school system. Visitors to Quebec see many signs of Quebec "nationalism," such as frequent displays of the provincial blue and white flag on equal terms with the red national flag and provincial pennants everywhere. In 1982, a vote to secede from the country was narrowly defeated, but signs urging one to vote "oui" were ubiquitous.

The demography of 17th and 18th Century New France differed from the mother country in a number of ways. Marriage rates in the new land were about 10 percent higher and fertility about 50 percent higher, although mortality was about one-third lower. While women's average age at first marriage did rise from 15.4 prior to 1660 to 22 in the 1700s and birth and marriage rates fell a bit after 1775, married women maintained the extraordinary average of 7.1 children per woman.

After 1815, a dramatic increase in British immigration threatened the supremacy of the French language in the province. By 1851, French speakers accounted for only three-fourths of the population and only

about half in Montreal itself. Massive emigration of French speakers to New England after 1851 reduced these proportions still further. By 1930, one million Quebecois had departed, a population loss of about 5 percent per decade.

Revenge of the Cradle

Quebec's high fertility after the British conquest is often called "revenge of the cradle" (*revanche des berceaux*). During 1851-1921, fertility fell throughout Canada, but not as fast in Quebec. (See Table 1.) In Quebec, the total fertility rate* fell from 6.8 births per woman in 1851 to 5.3 in 1921; in the rest of Canada, the TFR began from a slightly higher level, 7.1, but dropped to 3.5 over the same period.

This slower decline in fertility helped to compensate for the province's out-migration and the fact that mortality was somewhat higher in Quebec. From 1851 to 1921, life expectancy at birth rose from 40.9 years to only 53.3; for the rest of the country, it rose to 58.1. Thus, the demographic transition was well under way in English-speaking

*The total fertility rate (TFR) is the average number of children a woman would have throughout her childbearing years at the rates of a given year. A TFR of about 2 is often called "the replacement level" since each couple effectively "replaces itself." A TFR less than 2 means that a population will ultimately decrease; a TFR above 2 will insure continued future growth.

Canada, but had only barely begun in Quebec. At the same time, heavy immigration into the other provinces caused Quebec's share of the national population to fall from 38 percent in 1851 to 27 percent in 1921.

Post-1921: A Revolution

The year 1921 marked a real turning point in the demographic behavior of this rural Catholic province. By 1939, the fertility of Quebec had begun to converge with the national average. In 1939, the TFR had declined to 3.3, about one-third higher than that of the rest of Canada, in 1921, it had been 50 percent higher.

As a result of this plunge, Quebec also experienced less of a baby boom than the rest of the country between 1939 and 1957 and its "excess" fertility almost disappeared. Quebec's baby boom TFR went up to 4.1, an increase of 25 percent, while that of the other provinces increased 60 percent, to 3.9. Much of Quebec's fertility decline since 1921 can be attributed to a drop in the marriage rate; all other things being equal, this alone would have lowered fertility 8 to 17 percent below that of the other provinces.

A more lasting effect of the demographic revolution in Quebec was the TFR collapse after 1964. By 1966, Quebec's TFR was below that of Canada, by 1970 below the

Table 1: Total Fertility Rate, Quebec vs. Rest of Canada

Item	Year								
	1851	1921	1939	1957	1966	1971	1976	1981	1983
Quebec	6.84	5.29	3.28	4.09	2.72	1.99	1.81	1.62	1.46
Rest of Canada	7.10	3.45	2.42	3.87	2.85	2.27	1.83	1.76	--
Quebec/R. of C.	0.96	1.53	1.36	1.06	0.95	0.88	0.99	0.92	--

Sources. *Démographie québécoise*, 95-96, Henripin, table 2.3, Statistics Canada, Vital Statistics.

replacement level, and, in 1983, it was one of the lowest in the world at 1.46.

This dramatic fertility decrease has been accompanied by spectacular increases in abortion and sterilization. Abortion has been legal in Canada since 1969 and, in Quebec, the abortion ratio rose from 1.4 abortions per 100 live births in 1971 to 14.9 in 1981. In 1973, 63 out of 1,000 women had been sterilized and that proportion rose to 245 by 1981. By early 1980, 51 percent of 40-year-old women, 39 percent of those age 35, and 18 percent of those 30 had been sterilized. There is clearly nothing temporary about Quebec's low fertility for women over 30.

Quebec's Future in Canada

Once Canada's highest fertility province, Quebec now has the lowest. Coupled with continuing out-migration, what does this mean for its future within the country? Its demographic and political weight has diminished. Its proportion of the national population—and thus its share in the federal Parliament—has fallen from 38 percent in 1851 to 26 percent in 1982; this is projected to decline to 24 percent by 2000. In ad-

dition, low fertility is, of course, causing an aging of the population. By 2051, persons 65 and over could comprise a fourth of the population (see Table 2) and the total size of the population could actually be below that of today. Thus, Quebec presents an example of demographic change which is fairly typical of the developed world, but at the same time, somewhat unusual given the province's history.

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Translated by Margaret Greene and Jean van der Tak

Small Is Electric

The shape of future energy production is changing as energy efficient programs and small-scale power production is reshaping the electricity industry, according to the latest Worldwatch Paper, "Electricity's Future: The Shift to Efficiency and Small-Scale Power," by Christopher Flavin. Emphasis is shifting away from large coal and nuclear power plants, the report says.

This shift to small-scale power is being led not by the utilities, but by large industrial companies who are building their own power systems and small companies who are tapping new energy sources such as wind, hydropower, and geothermal energy. Because of this new competition, utility monopoly of electric generation may soon come to an end.

Advances in small power production are being led by cogeneration—the combined production of heat and power—which has become the fastest growing power source in the U.S. Most such plants are installed in factories or large institutional buildings such as hospitals, with power sold to utilities.

California, always a step ahead of the game, has an electricity future already dominated by these small-scale power sources, according to the study. By mid-1984 enough small, independent sources were planned or under construction to supply 20 percent of the state's power by 1990. New small-scale energy sources will not only meet projected growth in California's electricity demand but allow much of the state's fossil fuel-power generation to be phased out.

Flavin is optimistic about the future: "The changes now shaking up the industry offer hope for reliable and affordable electricity supplies—without serious environmental risk." □

Copies of Worldwatch Paper 61, "Electricity's Future: The Shift to Efficiency and Small-Scale Power," by Christopher Flavin, are available from PRB. Single copies are \$4.00 each; 2-5 copies, \$3.00 each; 6-20 copies, \$2.00 each; 21 or more \$1.00 each. Orders and checks (made payable to PRB) should be sent to: PRB, Circulation Department, P.O. Box 35012, Washington, DC, 20013 (PRB assists the Worldwatch Institute in the distribution of its papers).

Table 2: Age Structure of Quebec's Population, Following Two Scenarios

Scenario A: TFR of 1.6, life expectancy of 75.2, net out-migration of 8,000 per year
Scenario B: TFR of 1.8, life expectancy of 75.2, no net out-migration

Ages	1981	Year		2051	
		(A)	(B)	(A)	(B)
0-19	32.1	24.7	26.3	18.4	21.9
20-44	39.9	36.8	36.2	28.8	31.0
45-64	19.2	25.6	25.0	26.9	25.7
65-79	7.2	10.0	9.7	17.8	14.8
80+	1.5	2.9	2.8	8.2	6.6
Pop. total (1981 = 100)	100	105.4	108.4	73.1	94.4

Source. Démographie québécoise, table 12.4.

Sterilization, Breastfeeding

Continued from Page 2

- Among married contraceptors, pill use dropped from 36 percent in 1973 to 20 percent in 1982; female sterilization rose from 12 to 26 percent.
- Fewer than half (47 percent) of white women aged 15-44 in 1982 had used contraception at first intercourse; for blacks the figure was only 34 percent.
- Continuing the decline in overall fertility and in unwanted births since the baby boom peak in 1957, the average number of children already born to ever-married women aged 15-44 dropped from 2.2 to 1.9 per woman between 1973 and 1982 and the proportion of these births that were wanted at conception increased from 85 to 89 percent. However, births conceived sooner than planned increased slightly among young married women between 1973 and 1982, probably due to the large drop in pill use since 1973 by couples still intending to have more children and their increased use of the less effective diaphragm and condom.
- Among never-married women aged 15-19 in 1982, 40 percent of whites and 58 percent of blacks had had intercourse. These figures were lower than findings on teenagers' premarital sexual activity recorded in 1979 in a nationwide survey of women 15-19 living in metropolitan areas (42 percent for white teenagers; 65 percent for black teenagers).
- Sixteen percent of first marriages among ever-married women aged 15-44 in 1982 had been dissolved within five years, mostly by divorce or separation.
- The percentage of married women aged 20-24 who were infertile (unable to conceive after a year of intercourse without contraception) rose from 4 to 11 percent between 1965 and 1982.
- Fifty-nine percent of black women with children in 1982 had their first birth before marriage, compared to 11 percent of white mothers.
- Twenty-four percent of American babies born in the early 1970s were

breastfed for at least some time. By the early 1980s, the proportion had more than doubled to 53 percent (57 percent among whites, 25 percent among blacks, 73 percent among infants born to college-educated women).

This latest NSFG is the first comprehensive U.S. fertility survey since the NSFG of 1976, which followed the NSFG of 1973 and four similar surveys conducted earlier by private researchers, beginning in 1955. The NSFG's Cycle III sample of women interviewed was for the first time representative of all women in the childbearing ages of 15-44 living in the U.S. (excluding only Alaska, Hawaii, and women in institutions), regardless of whether or not they had been married or had children—who numbered 54 million in 1982. Teenagers aged 15-19 and black women were sampled at higher rates than other women so reliable national estimates for these groups could be made. □

Additional copies of the 42-page *Population Bulletin*, "Understanding U.S. Fertility: Findings from the National Survey of Family Growth, Cycle III" (Vol. 39, No. 5) can be ordered from the Population Reference Bureau for \$4.00 each; 2-10 copies, \$3.00 each; 11-50 copies, \$2.50 each; over 50, \$2.00 each. Handling charges: Inside the U.S., add \$1.00 to each order; outside the U.S., add 25 percent of cost of *Bulletins* ordered.

Population Surfaces in Debate

World population concerns momentarily became an issue of the second Presidential debate when President Reagan was asked (in a somewhat curious question) if he felt the world is "in for an Armageddon, or a situation, a time of anarchy regarding the population explosion in the world."

Reagan's response was, in part, "No, as a matter of fact, the population explosion, if you look at

the actual figures, has been vastly exaggerated, over-exaggerated. As a matter of fact, there are some pretty scientific and solid figures about how much space there still is in the world and how many more people we can have."

In 1974, as California governor, Reagan issued a proclamation that seemingly read the opposite. ("[We should] take this opportunity to reflect on the necessity of population stabilization to the welfare of all the people of the world.") But that proclamation seems anomalous with most other statements by the President, including the most recent (made on the 1980 campaign trail): "Now today there are studies, farm studies, based on the tillable land on earth and based on [farming it] at the level of American farming worldwide, [which say] that the earth can support a population of 28 billion people." □

Mapping Canada's Cities

Population atlases showing the population dimension of 12 major Canadian cities have been published in a series by Statistics Canada. Each of the new Metropolitan Atlas Series covers a single city, with maps showing data on 33 statistical themes (e.g., population distribution, housing, income, employment, etc.) illustrated at the tract level, using data from the 1981 Census.

As a result, the reader can see the many ways in which a population is diversified spatially and the ways these diversities are interlinked. In short, Statistics Canada's Atlas series offers highly useful, in-depth city portraits for demographers, geographers, and urban planners.

(The cities covered: St. John's, Halifax, Quebec, Montreal, Ottawa-Hull, Toronto, Hamilton, Winnipeg, Regina, Edmonton, Calgary, and Vancouver.) □

To order issues from the *Metropolitan Atlas Series* (Catalogue nos. 99-919 to 99-930), write: Publications Sales, Statistics Canada, Ottawa, Canada KIA OT6. Canada \$8.50 in Canada, \$10.20 elsewhere.

That Was PRB's Year That Was

Readers who read *PT* and other publications may wonder what PRB is really like. Located in Washington, D.C.'s booming West End, PRB lives in a four-story townhouse full of staff (about 22), computer terminals, and one of the largest population libraries in the U.S.* Well established, independent, and nonadvocacy in its orientation, PRB is in its 55th year of explaining the economic and social impact of population change to educators, policymakers, the media, and an informed public.

PRB chalked up 1984 as a year of exceptional challenges and achievements.

The year saw the election of PRB's new President, Thomas W. Merrick, who took office Sept. 1, with former President Robert P. Worrall stepping down to become President Emeritus and a PRB senior consultant. Merrick, a demographer who previously headed Georgetown University's Center for Population Research, pledged that the Bureau would sharpen its capacity to respond to the ever-growing and more complex population information needs of the 1980s and 1990s.

Leon F. Bouvier was elected PRB Vice President by the Board of Trustees. Also a demographer, Bouvier was serving as senior consultant and has a long association with PRB, as may be attested by the fact that he was vice president of PRB once before, in 1976. Bouvier also serves on the Board of Directors of the Population Association of America.

One of PRB's major efforts in 1984 was to increase membership and publication sales. As President Merrick put it, "We try to keep dues low so that we can reach as many people as possible." (One generous member responded by enrolling 47 of his colleagues for memberships.)

Because of a series of large-scale



orders, a record 180,000 copies of the 1984 *World Population Data Sheet* were sold during the year. The *Population Bulletins* for the year included in-depth coverage of demography in business, a vision of the future of the world's population growth and a first overview of the results of the important new National Survey of Family Growth. A new group of PRB publications—the *Population Trends and Public Policy* series—drew policymaker attention to population-related issues of public policy. And PRB's venerable *Intercom* was succeeded by *Population Today*, which you're holding in your hand.

PRB's multitalented staff was on the move throughout 1984. President Merrick participated in the Western Hemisphere Migration Program held in Bogota, Colombia. Vice President Bouvier traveled under AID contract to the Ivory Coast and Sierra Leone to conduct "RAPID" presentations (Resources for Awareness of the Population Impacts in Development) for officials of those countries. President Emeritus Worrall traveled to India



Bouvier

and China to facilitate improved relationships with similar organizations in those countries. Staff also traveled to Sudan and Somalia (with

The Futures Group), to Mexico (to provide press coverage of the Inter-

national Population Conference) and to the annual meeting of the Population Association of America (as reporters and participants). Meanwhile, the population education staff logged 10,000 miles conducting population education workshops in order to help teachers and students all over the U.S. be more population- and demography-knowledgeable.

PRB also continued its exploration of the field of business demography through its Demographic Information Service Center (DISC). Using local area population estimates and projections from the Donnelley Marketing Information Services' computerized data base, PRB experts are able to study the demographic feasibility for every endeavor imaginable, from regional commuting patterns to cookie vending franchises.

With the assistance of a grant from the Andrew W. Mellon Foundation, PRB's visiting scholar for 1984-85 year is Alice Day, from the Australian National University. She will spend her year at PRB researching the implications of increased life span for social support of the aged.

Ultimately, the most important "staff" of PRB remains its members. It is they, with their commitment to the importance of population issues, who provide the mandate for PRB's work and, with their generosity and support, make it possible. During the coming year, PRB plans to expand and refine its services to members and the public at large. Watch this space. □

*Open to the public, PRB's Information Resource Center answered more than 5,000 inquiries from the public in 1984.

WORLD FOOD NEWS

Africa's emergency food needs in the coming year will surpass the amount needed in the current year, reports the UN Food and Agriculture Organization (FAO). FAO says 21 countries will face severe food shortages in 1985. Their total food aid requirements will exceed 4 million metric tons. This is 1 million tons above last year's needs.

The 1984 crops have again been poor in southern Africa—in Angola, Botswana, Lesotho, Mozambique, Zambia and Zimbabwe. In Ethiopia, the 1984 main crop about to be harvested will be disastrously low. In Kenya, as a result of the worst drought in many years, the main season 1984 harvest is estimated to be some 40 percent below the previous year's level.

In the Sahelian countries, prospects for the crop now being harvested have also deteriorated sharply in recent weeks with crop failures reported in the northern areas and crop prospects particularly poor in Chad, Burkina Faso, Mali, Mauritania, and Niger.

FAO Director-General Edouard Saouma, in announcing that the



Drought in Mauritania.

critical food situation in Africa is likely to worsen next year, appealed to the international community to help Africa meet its current emergency and rehabilitate its shattered agriculture.

"The situation in Africa today is truly tragic," Mr. Saouma declared. "Not only does it seem unlikely to improve much in the immediate future: All signs point to a further deterioration next year."

Ultimately, according to Mr. Saouma, the roots of the African food crisis are technical, developmental, economic and political, and the long-term attack on the food

problem must be led by the African countries themselves—a point of view stated by the African Ministers in the Harare Declaration. Rehabilitation of the agriculture and livestock sectors is essential, with emphasis on irrigation and water drilling equipment, seeds, fertilizers, pesticides, farm machinery and basic facilities. □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

Population Update

Estimated United States Population:

As of August 1, 1984	236,849,000
As of August 1, 1983	234,704,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 958.

Estimated World Population:

As of December 1984	4,796,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1984 population given on the 1984 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: August 1984

Item	12 months ending with August					
	Number			Rate		
	1984	1983	1984	1983	1982	1981
Live births	3,638,000	3,678,000	15.5	15.8	16.0	15.9
Deaths	2,029,000	2,010,000	8.6	8.6	8.5	8.7
Natural increase	1,609,000	1,668,000	6.9	7.2	7.5	7.2
Marriages	2,454,000	2,473,000	10.4	10.6	10.6	10.6
Divorces	1,161,000	1,184,000	4.9	5.1	5.2	5.3
Infant deaths	39,000	40,400	10.7	11.0	11.4	11.9
Population base (in millions)	...	...	235.2	233.0	230.8	228.6

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source. *Monthly Vital Statistics Report* (Vol. 33, No. 8) from the National Center for Health Statistics.

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Populandia Is

Seven (an update)



On Aug. 16, 1984, the world's most famous mythical mini-continent* crossed the half-billion mark. Designated as the repository of all the world's natural increase (births minus deaths) seven years ago, Populandia's current population (as of the end of 1984) is: 539,676,218 people, rather amazing for a country that began with a population of zero on Jan. 1, 1978. Populandia now contains about 11 percent of all the people in the world.

Congestion is now a fact of life on Populandia, with 3,373 children (all under age 7) per square mile. And its population pyramid is beginning to bulge outward at the bottom. Herewith the revised, slightly adjusted totals from each year of Populandia's existence:

Yr. of birth	age of cohort in 1984	World's births	deaths	Nat. Incr.
1978	6	124,350,573	49,051,783	75,298,790
1979	5	125,112,294	49,204,415	75,907,879
1980	4	125,846,245	49,340,991	76,505,254
1981	3	126,555,906	49,462,795	77,093,111
1982	2	127,236,833	49,568,006	77,668,827
1983	1	127,867,833	49,656,082	78,231,751
1984	0	128,686,888	49,916,282	78,970,606

Populandia's total population, as of Dec. 31, 1984 539,676,218

World birth rates have fallen slightly over the past seven years, according to estimates. But that dip is more than compensated for by the raw numbers of population increase that have grown during that time: e.g., the number of couples of childbearing age; the numbers of children born; the natural increase—and the 216,358 babies who are sent to Populandia each day □

*See, e.g., INTERCOM November/December 1983 for previous dispatches from PRB's fictional land of population growth.

TAKE A NUMBER...

Tracking Puerto Rican Migration: Has high unemployment in Puerto Rico caused a resurgence of migration to the U.S.? While movement from the island declined very sharply during the 1970s, just-released estimates from the Census Bureau indicate that there may have been some movement from the island. Puerto Rico's population grew by just 5,000 from July 1, 1982 to July 1983 when it was estimated to be 3,267,000. But since there were about 66,000 births and 21,000 deaths in Puerto Rico during that period, the population would have grown by 45,000 with no migration. Thus, we can tentatively conclude that Puerto Rico had a net loss of about 40,000 for that one-year period. That represents a considerable increase from the previous two years when the population grew by 17,000 (1981-1982) and 39,000 (1980-1981).

Finally: To a New Yorker, the "Midwest" is, of course, defined as anything on the other side of Jersey City, not including California. This is incorrect. The Census Bureau has at last defined this area in a momentous nomenclature change—at least for those who work with these numbers every day. No more North Central Region!! The former NCR is now known as the "Midwest." To be sure, many Kansans probably think of Ohioans as Eastern liberals, but census types now

have a Midwest to call their own. Why the change? Perhaps so former North Centralians can disassociate themselves at least a little from "Frostbelt stigma," a general impression of population decline, empty factories, and snow.

State of the World's Children:

The present tragic conditions in Ethiopia emphasize in a most graphic way the effects of poverty when combined with a natural disaster. There is, however, a tendency to believe that that problem can be solved simply by large increases in food aid. Once hunger relief has been effective, we may tell ourselves that "everything's all right now." UNICEF's *State of the World's Children Report* for 1984 has much to tell us about the prevailing situation even without dramatic occurrences such as a famine or drought. A few selected statistics tell the story: In Malawi, about 4 out of 5 annual deaths are to infants less than 1 year old; in Egypt nearly 1 of 2 (in Sweden, it's 1 out of 100). Children in developing countries die from diseases which long ago ceased to be a problem for many of us: nearly all from diarrhea, malnutrition, and measles in Pakistan. Polio immunization levels vary quite a bit: 1 percent for infants in Sudan, 34 percent in Saudi Arabia, 19 percent in Ecuador, 11 in India. While progress has been made in many countries, there appears to be a long way to go.

... addenda



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CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

THE CROWDED EARTH: People and the Politics of Population by Pranay Gupte. New York: Norton, 1984. 349 pages. \$17.95. ISBN 0-393-01927-6

Bombay-born Pranay Gupte, a former *New York Times* foreign correspondent, roamed through 38 countries in 14 months from the end of 1982 to see whether the \$6 billion spent on population programs since the 1974 Bucharest conference "had really improved the lives of people for whom the projects were intended." His informants ranged from family planning leaders (Thailand's Mechai, Colombia's Tamayo, China's Qian Xinzhong, UNFPA's Salas) to critics (Australia's Billings) and dozens of everyday people—beleaguered Turkish guestworkers in West Berlin, Outer Mongolian nomads, proud Nigerian fathers of 11, weary Brazilian mothers of seven, the sterilized Indonesian father of four. As no demographic tome can, the results vividly illuminate his conclusions: At a time when "the blush is off the population rose" and the volume of money for family planning is declining in real terms, "the need for money is more, not less." The population bomb has not been defused. But "well-designed, culturally sensitive population programs can be effective" (Indonesia, Thailand, isolated efforts in India, even, if Draconian, in China), "and the absence of such programs can be profoundly felt." Ten years after Bucharest "it is possible to say that with the possible exception of the Green Revolution the best investment in development the governments of the West and Third World have made has been in population. Had they not spent the money things would have been far worse."

—Jean van der Tak

THE WORLD POPULATION SITUATION IN 1983. United Nations, Department of International Economic and Social Affairs, Population Studies, No. 85. New York, 1984. 108 pages.

This brief overview of the world population situation as of 1983 contains three sections: Population Trends, Population and Development, and Population Policy, each divided into subtopics. This excellent brief highlights some of the world's unresolved popula-

tion issues, such as the continuing large refugee movements (almost 7 million in 1981, excluding 1.9 million Palestinians), developing countries' high mortality in rural areas, and the possibility of some world region relapsing to higher mortality levels. The text is supported by 36 tables, providing historical, current, and projected figures (e.g., Twenty Largest Urban Agglomerations in the World Ranked by Size). An appendix of demographic indicators by country and by region is also included.

—Alexander von Cube

BLACKS AND WHITES: Narrowing the Gap, by Reynolds Farley. Cambridge, Mass.: Harvard University Press, 1984. 235 pages. \$22.50. ISBN 0-674-07631-1.

How great is the discrepancy between expectations raised by civil rights efforts in the 1960s and realized social gains 20 years later? Farley addresses the question of whether blacks in the U.S. have made genuine progress toward civil, social, and economic equality. He tries to quantify the actual situation for blacks, for example, by comparing indicators and growth rates of comparable job qualifications with actual incomes of black vs. white men and women (black professional men now earn 65 percent of what white professional men earn, he notes).

"If the growth rates of 1959-1982 persist without interruption, the median income of black and white families in the United States will be equal in about three centuries," Farley points out. He himself does not think that economic polarization will continue increasing. While one should not be overoptimistic, considerable gains have been achieved in the fight for racial equality, he contends. It is the rate of gain that is dismayingly small.

—Maria Matan

WOMEN OF THE WORLD: Sub-Saharan Africa, by Jeanne S. Newman. Washington, D.C.: U.S. Bureau of the Census, 1984. 200 pages.

Social development for women is a concern which goes beyond the U.S. This book, one in a series featuring women of each of the world's developing regions, discusses the status of women statistically and demographically, based primarily on data from the Office of Women in Development, USAID. Not surprisingly, African statistics are sketchy, but the author makes every ef-

fort to present complete data from many resources.

Because of the multidimensional role of women and varying operational definitions, data on reproductive activity of women can be less than reliable or consistent. The book confirms only little relationship between indicators of modern female status and fertility.

—Keiko Osaki

PUBLICATIONS RECEIVED

ABORTION AND THE CONSCIENCE OF THE NATION, by Ronald Reagan. Nashville: Thomas Nelson, 1984. 95 pages, \$7.95.

ABORTION FREEDOM: a worldwide movement by Colin Francome. Boston: George Allen & Unwin, 1984. 241 pages, \$19.95.

THE CARIBBEAN BASIN TO THE YEAR 2000: demographic, economic, and resource-use trends in seventeen countries by Norman A. Graham and Keith L. Edwards. Boulder, Colo.: Westview Press, 1984. 166 pages. \$18.50.

THE CHINESE ECONOMY, by Gregory C. Chow. New York: Harper & Row, 1985. 308 pages. \$26.95.

ECONOMIC AND SOCIAL PROGRESS IN LATIN AMERICA: economic integration. Washington, D.C.: Inter-American Development Bank, 1984. 472 pages.

THE EVICTION OF BANYARUANDA: the story behind the refugee crisis in southwest Uganda, by Jason W. Clay. Cambridge, Mass.: Cultural Survival, 1984. 77 pages.

A FALSE FERTILITY TRANSITION: the case of American blacks, by Paul Wright and Peter Pirie. Honolulu: East-West Population Institute, 1984. 81 pages.

FERTILITY AWARENESS, by Regina Asaph Pleiffer and Katherine Whitlock. Englewood Cliffs, N.J.: Prentice Hall, 1984. 214 pages. \$7.95.

FORGOTTEN CHILDREN: parent-child relations from 1500 to 1900, by Linda A. Pollock. Cambridge: Cambridge University Press, 1983. 334 pages. \$16.95.

FUTURECASTING: charting a way to your future, by Joel Kurtzman. Palm Springs, Calif.: ETC Publications, 1984. 95 pages. \$9.95.

INTERREGIONAL MIGRATION, NATIONAL POLICY AND SOCIAL JUSTICE, by Gordon L. Clark. Totowa, N.J.: Rowman & Allanheld, 1983. 191 pages. \$34.95.

THE INVISIBLE FARMERS: women in agricultural production, by Carolyn Sachs. Totowa, N.J.: Rowman & Allanheld, 1983. 153 pages. \$23.95.

KINSHIP AND MARRIAGE: an anthropological perspective, by Robin Fox. Cambridge: Cambridge University Press, 1967. 273 pages. \$29.95. \$7.95 paper.

THE OLD-AGE ECONOMIC SECURITY VALUE OF CHILDREN IN THE PHILIPPINES AND TAIWAN, by Susan De Vos. Honolulu: East-West Population Institute, 1984. 72 pages. \$3.00.

SPOTLIGHT

NIGERIA

Population, 1984 (est.): 88 million
Population per sq. mile: 247
Births per 1,000 pop., 1983 (est.): 48-51
Deaths per 1,000 pop., 1983 (est.): 16-18
Annual rate of population growth, 1983 (est.): 3.0-3.5 percent
Infant mortality rate, 1983 (est.): 134 infant deaths per 1,000 live births
Life expectancy at birth, 1983 (est.): 43 years
Area: 356,667 sq. miles (about twice the size of California)
Major exports, 1983: Oil (96 percent) \$11.3 billion
Major imports, 1983: Machinery and transport equipment, manufactures, chemicals - \$9.0 billion

Nigeria, located on Africa's western coast, is by far the continent's most populous country. The actual size of the population is a matter of some disagreement since the country's past attempts at censuses have been unsatisfactory due to a variety of political and technical difficulties. Still, with an estimated population of about 88 million, Nigeria holds about one-fourth of Africa's people. On a worldwide basis, Nigeria's population size ranks tenth.

Nigeria's coastal areas feature hot, humid mangrove swamps; the topography then turns to tropical rain forests to the north, culminating in the high central plateau and semiarid desert of the extreme north. The wet and dry seasons are quite pronounced, the latter featuring the dusty winds of the *harmattan* from October through April. There are several navigable rivers, the Niger, Benue, and the Cross, as well as a large system of lagoons to the south which provide important means of transportation.

Nigeria gained independence from Britain in 1960 and its political history has since been hallmarked by regional tensions, one of which culminated in the Biafran War of 1968-70. In the comparatively less well developed North, the Hausa people predominate; the Yoruba are most numerous in the southwest; and the Ibo, often well-

placed in trade and the bureaucracy, are found in the southeast. Many individual languages are spoken, although English is used for most business. About half of the population is Muslim, 40 percent Christian, and the balance profess animist or traditional African beliefs.

Oil has dominated the Nigerian economy since the rise in world oil prices in 1973. This economic boon has, however, also shown its negative side. In the 1960s, agriculture accounted for about two-thirds of the economy and Nigeria was a major exporter of such foodstuffs as cocoa, groundnuts, and palm products. Today, agriculture accounts for only 20 percent of Gross Domestic Product and only cocoa is exported and production of a number of crops has actually declined. In 1980, a "Green Revolution" was launched in order to make the country self-sufficient in food, an important goal since oil depletion is expected in about 15 years. Oil has had little effect upon Nigeria's labor force and the proportion involved in agriculture, about two-thirds, remains as it was 20 years ago.

Government planning has placed much emphasis upon education, in part motivated by a serious lack of skilled labor for developing industries. Such programs as Free Primary Education and the establishment of teacher training colleges and polytechnical institutions are intended to combat the low literacy levels. It may also be that a planned move of the national capital from coastal Lagos to Abuja in the interior may give the government more contact with the people and improve the effectiveness of social programs.



Nigerian girl.

As often seen in sub-Saharan African countries, Nigeria's demography is marked by high fertility and moderately high, although declining, mortality. The government's chief concern has been the reduction of mortality levels, particularly in the area of infant and maternal health. While there is no official policy to reduce the rate of population growth, there are indications that Nigeria may be moving in that direction. Articles in the national press have linked population growth to development problems and the Federal Ministry of Information has issued releases that the government may be poised to deal with the "population explosion."

The historically high birth rate has led to a high proportion of youth in the population. Nearly half of the population is below the age of 15 and nearly one-fourth in the preschool ages below six. There are no reliable estimates of the actual fertility level in the country; the World Fertility Survey conducted in 1981 gave a total fertility rate of 5.4 lifetime births per woman, but noted that this rate is obviously too low and needs further study.

Projections of the country's future population size suggest large increases for the future. The World Bank projects that Nigeria's present 90 million could rise to about 618 million in the latter part of the next century before stabilizing. But this projection assumes that a gradual decrease in fertility will begin soon and reach the "two-child family," the number needed for long-term population replacement by 2035. Family planning, however, is not very popular in Nigeria and, of the approximately 6 percent of women who do use some form of it, the majority do so for the purposes of childspacing rather than reduction of the number of children.

Thus, Nigeria faces a future in which self-reliance in the post-oil boom years will be of the utmost importance and must do so along with a rapidly growing population. □

PT's thanks to Muhammed Lecky, a doctoral candidate from Nigeria at the Univ. of California for his assistance in preparing this SPOTLIGHT.

POPULATION TODAY™



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World Bank photo by Kay Muldoon

Enough food? For a significant proportion of the Third World population, future self-sufficiency may be impossible. See World Food News Special Report, page 2.

WORLD FOOD NEWS SPECIAL REPORT

How Many People Can the World Feed?

This is one of the most crucial questions for today's world, and also one of the hardest to answer. In 1980 the population of the less developed countries (LDCs) was about 3.25 billion. Nearly 500 million of these people—about one in six—were seriously malnourished. By the end of the century the population of the LDCs is expected to increase by 50 percent, to 4.9 billion. How are the increasing numbers of people to be fed and will there be enough land to support them?

The situation is rendered even more complex and seemingly insoluble by the fact that the mere presence of food is often unrelated to starvation. Both poverty and maldistribution, along with spoilage, climate, and natural disasters, often play a determining role in the advent of a famine.

This past summer, the UN's Food and Agriculture Organization (FAO) released a major food study that appears to be the most comprehensive response yet to this thorny question. The study integrated the results of research on soil capacity, agricultural productivity, and population growth conducted by the UN in the past two decades. Climate maps were prepared for all areas and then overlaid on the FAO's World Soil Map; a computer program was used to calculate which crop could best be grown in the tens of thousands of land units considered, taking into account factors such as erosion, temperature, slope, and solar radiation. These productivity calculations enabled the FAO to "guesstimate" a theoretical population-carrying capacity for land in 117 less developed countries (China was not included in this analysis).

The Crucial 1.0 Ratio

Table 1 (page 8) presents the main finding of the study, the proportion of world and regional populations which the land is capable of supporting, given different levels of input of agricultural investment and technology (defined in detail in footnote to Table 1). Thus, looking at the year 2000 section of Table 1, we see that with intermediate agricultural inputs and all available land cultivated, the developing world should be able to support its population. Ratios less than 1.0 (in boldface) indicate that the region could not support its population under the assumptions shown.

The finding of the study, that the LDCs are, taken as a whole, "capable [even with low technology and investment] of producing sufficient food to sustain twice their year 1975 population and one and a half times their year 2000 population [with additional inputs of technology and investment, the ratio expands to four times the population]," appears heartening, at least at first glance.

But the FAO study did not attempt to determine if there will be enough food for all in tomorrow's world; only that, in an ideal world, there is theoretically enough land. If there were "massive and unrestricted movement" of food surpluses and laborers within and between the 117 countries, in order to maximize productivity and distribute food most equitably, yes, there would be one-and-a-half times the food needed; but such a cooperative, equitable system of food production is presently not even on the horizon. *Continued on page 8*



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BULLETIN

The U.S. Agency for International Development announced on Dec. 12 that it will cut off funding of the International Planned Parenthood Federation because of IPPF support for some abortion activities. The U.S. was contributing about 30 percent of IPPF's funding (\$14 million in fiscal 1984). See next month's PT for details. □

International Health Aid Boosted, Child Health Stressed

Congress gave the U.S. Agency for International Development health activities a major boost, nearly doubling its funding for fiscal 1985. The AID health budget will jump to \$258 million from last year's \$135 million.

The new funds are divided into three categories: a \$50 million general increase, \$48 million for health aid to Central America, and a \$25 million Child Survival Fund. These funds represent a major achievement for Congress, as the Administration has sought to cut AID health each year for the past four. The AID health budget has barely kept up with inflation in recent years.

The \$50 million general increase was initiated by the newly established House Select Committee on Hunger. After researching the effectiveness of U.S. development aid, the committee members sought an increase in health aid because, according to a committee aide, dollar for dollar, health aid does more to reduce infant mortality and increase economic productivity than any other type of development assistance.

The \$48 million increase in health aid for Central America came in response to a proposal by the National Bipartisan Commission on Central America, headed by former U.S. Secretary of State Henry Kissinger.

The Child Survival Fund appropriation of \$25 million will be made available as grants to be used by UNICEF and private aid agen-

cies. It is designed to finance low-cost health measures for children in developing countries. These measures include oral rehydration therapy to replace lost body fluids, use of growth charts to spot subtle malnutrition, immunization against childhood diseases, and promotion of breastfeeding instead of bottle feeding. UNICEF estimates that half of all child deaths worldwide could be avoided if these four techniques were used universally. Congress affirmed UNICEF's campaign to promote these measures with a resolution in 1982. □

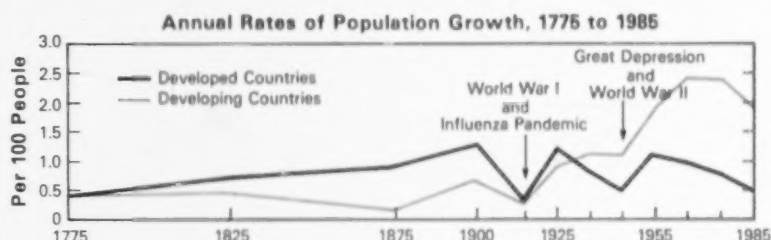
Grass-Roots Groups Spark Population Discussions

Population Growth: Critical North-South Issue? will be the focus of grass-roots discussion groups all over the U.S. this winter, as one part of the Great Decisions '85 program sponsored by the nonpartisan Foreign Policy Association.

Taking place at high schools and colleges, libraries, and religious organizations, the discussions will enable people from all walks of life

Continued on next page

New Chart Series Shows World Trends



A series of charts entitled "World Population: Fundamentals of Growth" is the latest publication from the population education program at PRB. Six 8½ x 11 inch charts, with explanatory readings on the back of each, illustrate the components and important trends of world population growth. Population growth through history, natural increase in developed and developing regions, the effects of migration, age-sex composition, world urbanization, and future population trends—all are illustrated in the six charts and readings. In short, the chart series provides a comprehensive lesson on population dynamics, with both historical and future perspectives.

"World Population: Fundamentals of Growth" is an updated and improved version of PRB's Chart Series I (the "blue series") published in 1975. It is also available as an 8½ x 11 inch booklet, suitable as a student reading and reference tool. PRB educator and library members will receive one copy of the

notebook-sized charts with January 1985 *Interchange*. Special study questions and activities geared to teaching students how to read the charts will be featured in *Interchange*. In February, the series' six charts will be published as individual wall charts (22 inches wide x 17 inches high).

The notebook sets of "World Population: Fundamentals of Growth" may be ordered as follows: \$2.00 for a single set; 2-10 sets, \$1.50 each; 11-50 sets, \$1.00 each; and 51 or more sets, \$.75 each. A set of six color slides of the charts is available for \$3.00 per set. The wall charts, available Feb. 1, will cost \$12.50 per set of six (bulk prices available). A discount of 20 percent is offered to PRB members for a limited time. To order notebook sets and slides of "World Population: Fundamentals of Growth" or to request information about the wall charts, write: Circulation Dept., PRB, P.O. Box 35012, Washington, D.C. 20013.

FROM THE EDITOR'S DESK

The new defense plan has been called a "standstill" because it would keep spending on a rising path, but generally not one that is steeper than the path in the current fiscal year...

—The Washington Post, Nov. 28, 1984

How's that again?

"Standstill"?

Few demographic concepts give us "words people" more fits than keeping rates straight. One slip, and you find yourself writing (as the media have done innumerable times) that "world population is falling" when it's growth rates that have dropped.*

But now the "standstill" concept (see above) has ridden to the rescue. If people can get used to the idea of a constant rate of growth (say, 5 percent) being "zero"—a rate at "standstill"—then they'll be readily able to grasp positive and negative variations from that base—"the less developed world's birth rates (excluding China) have dropped about 10 percent below standstill during the past decade, PRB reported."

Cumbersome? A bit. But "standstill" nonetheless deserves a place in the complete statistician's arsenal. During the Holiday Season, my weight remained at standstill.

—Art Haupt

*or declined, dipped, edged, plummeted, waned. See INTERCOM August/September 1979 for a usage guide to up and down words.

Grass-Roots Groups

continued

to learn about important population issues and discuss them with panelists. Population will constitute one session in the series of eight group sessions that make up

Great Decisions '85 is being organized by coordinators in all 50 states, and the dates of local discussion groups will vary. They are being timed to roughly coincide with the *Great Decisions '85* TV series, hosted by Edwin Newman, that is being broadcast over public television starting Feb. 10. (There is no fee for attending any session. At some schools, the Great Decisions program will be offered for course credit.)

In its 31st year, Great Decisions is the "oldest, largest citizen-education program on foreign affairs." Over 200,000 people are expected to participate.

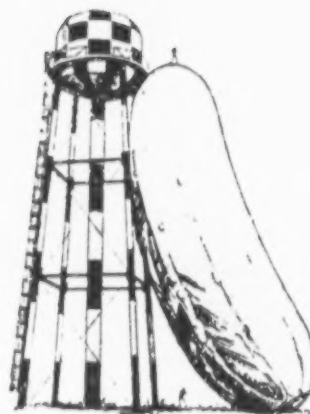
A free brochure describing Great Decisions '85 is available from the Foreign Policy Association. Copies of the 96-page *Great Decisions '85* briefing book used in the program are available for \$6.00 ea. Also available are Teachers Guides and videotapes of the TV programs. □

To order these items, or find out the location and coordinator for the Great Decisions '85 study group nearest you, contact: Sandra Sedacca, Foreign Policy Association, 205 Lexington Ave., New York, N.Y. 10016. Phone 212 461-8450.

Every 24 Hours . . .

Tom Parker, the artist behind those inventive covers on *American Demographics* magazine, has put a collection of the covers and 365 "In One Day" facts about Americans into book form. *In One Day* (Houghton Mifflin, \$7.95, paper) gives one an assortment of the daily doings that tells Americans a lot about themselves and also serves as great filler for cocktail party conversation. Did you know that, given standing room, the entire U.S. population could fit in a square about 3½ miles on a side? While that doesn't sound like much, the fact that a single file line of Americans would cross the country 26 times does. (What one can do with statistics!)

A few other samples. In one day . . . Americans give birth to 100 sets of twins; write a half million letters to Congress and 20,000 to the



President; throw out 200,000 tons of food; write 100 million checks, 1 million of which bounce; Americans eat 2.8 million pounds of cucumbers, equivalent to the cuke illustrated above; fill in 50 acres of crossword puzzles; skin 98,200 cattle; discover one new species of insect; make 833,000 pairs of jeans.

Also, 20 dogs bite letter carriers, the average American's name pops up in a computer 35 times, 10 tons of colored aquarium gravel are purchased, and the U.S. "center of population" creeps westward 35 feet—all in a single day.

Where does all this essential data come from? Some from the Census Bureau, of course, but also from the wealth of associations, councils, and institutes that exist for everything, and we mean everything. The running listing of these in *In One Day* are as entertaining as the "In One Day" items themselves: The National Piano Travelers Assoc., the Frozen Pizza Institute, the American Cricket Growers Assoc., the Embroidery Council of America, the Pressure Sensitive Tape Council, the Aromatic Red Cedar Closet Lining Manufacturers Assoc. (how would you like to answer their phone?), the Electrical Women's Roundtable, the International Grooving and Grinding Assoc., the Chewing Fescue and Red Fescue Commission, the Association of Tongue Depressors, the Heavy Duty Business Forum and, of course, the American Society of Association Executives. Makes a great stocking stuffer (now we tell you). □

SURVEY REPORT

Morocco WFS

Although richer in natural resources than many developing countries, Morocco's economic development has been plagued by rapid population growth, along with declines in the world price of its main export, phosphate, and a costly war in Western Sahara.

Situated on the northwest corner of Africa, the Kingdom of Morocco is dominated geographically by its long coastline and the rugged Atlas mountain range to the east and south. About one third of the population live in remote mountain villages and speak Berber rather than the official language, Arabic.

Despite large expanses of desert, agriculture has always been an economic mainstay. Morocco has had near self-sufficiency in foodstuffs, but is now threatened by the burgeoning population, growing at 2.9 percent annually.

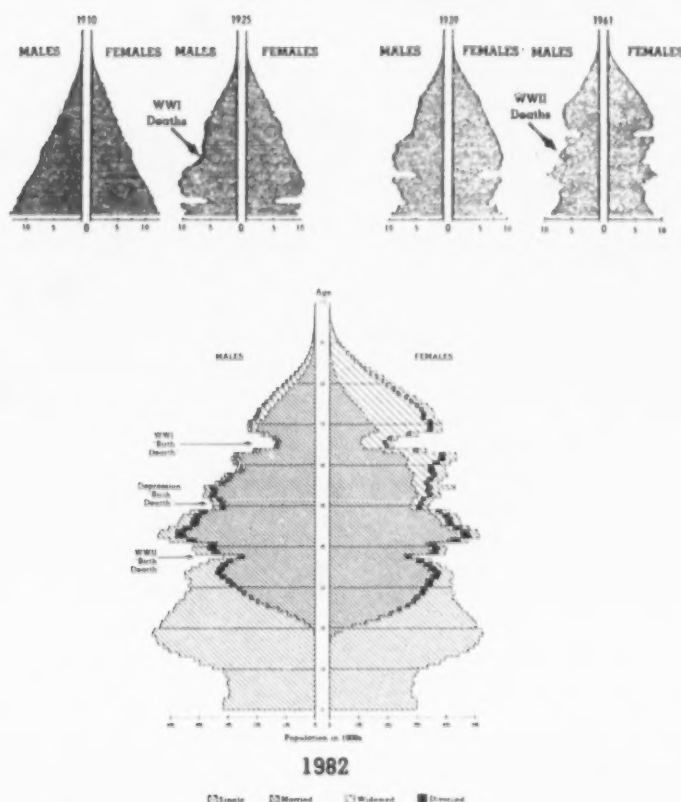
The Moroccan government officially recognized the role of population in development as early as 1966 and initiated a family planning program the following year. In 1979-1980, a nationwide survey was conducted in conjunction with the World Fertility Survey program in part to assess the progress of the family planning and health delivery systems. The newly published results show that contraceptive use is higher than expected. About 23 percent of the married women use birth control, and almost 20 percent use one of the more reliable methods. The pill is the most popu-

lar method, accounting for 71 percent of all users, followed by withdrawal, the IUD, and rhythm. Large families are valued, women want about 5 children each, but actual fertility exceeds even these levels. The Total Fertility Rate (TFR) for the 1974-1979 period was 5.9 children per woman. This indicates a significant decline in childbearing among younger women, since women aged 40 and over reported an average total of seven children.

The WFS results support evidence of declines in birth rates indicated by the 1982 Moroccan census. Declines in infant mortality also measured by the WFS have not been as dramatic, but do show constant improvement, falling from 130 in the 1950s to about 93 in 1975-1980. In general, the WFS results show real movement towards the government's goal of lowering fertility rates. □

SPEAKING GRAPHICALLY

Population of West Germany, by Age and Sex, 1910-1961, and by Marital Status, 1982



A population pyramid, of course, is essentially a bar graph which shows a country's population by age and sex. But pyramids can tell quite a story about a country's history, particularly if we look at a series of them. Even if we didn't know that the pyramids to the left were of the population of West Germany or knew little of its history, we would have many clues to what had happened. In 1910, the West German population had a "normal" appearance. No traumatic events are indicated; we might venture that Germany was at peace and that *Gemutlichkeit* abounded. Then came World War I; the number of births dropped sharply and male mortality was extensive. WWI is clearly reflected in the pyramid. Then, a second "baby bust" occurred during the worldwide Depression; this shows in the 1939 pyramid. The '39 pyramid also gives evidence that pronatalist policies during the Third Reich may have been working, since the number of births clearly increased in the late 1930s. Also note that the numbers of males in the prime draft ages of 19-22 were very low, perhaps prompting the pronatalist stance. The 1982 pyramid has an added feature: the bars are shaded for marital status. The more one studies these pyramids, the more one sees.

Source: *Bevölkerungsbewegung, 1977 (Reihe 2) and Gebiet und Bevölkerung, 1982 (Reihe 1)*, Statistisches Bundesamt, Wiesbaden

DEMOGRAPHER'S

The Migration Turnaround: End of a Phenomenon?

by Anthony Agresta

The Migration Turnaround, a phrase used to describe the net movement of migrants from the metropolitan to the nonmetropolitan United States during the 1970s, represents a reversal of historic patterns. Prior to 1970 metropolitan areas had been growing at a faster rate than their nonmetropolitan counterparts. The Turnaround was not expected in a nation that had been becoming more urban with each passing decade.

Social scientists, politicians and city planners have long recognized the problems of rapid metropolitan growth: rising metro crime, city overcrowding, escalating unemployment, poverty and pollution. But with the onset of the Migration Turnaround, the ruralization of America (or the decentralization of urban areas at the very least) had begun.

According to the latest census data it appears that this reversal was a temporary characteristic of the 1970s. Metropolitan America's growth is faster once again. Slackening migration away from the metropolitan areas played a key role in this "return to normalcy."

Definitions of Urban-ness

The Census Bureau's detailed criteria defining what constitutes urban, rural, metropolitan, and nonmetropolitan has changed over the decades. The term metropolitan is synonymous with Standard Metropolitan Statistical Area or SMSA, (recently revised to MSA—see Footnote 1). Counties are the building blocks of the SMSA. The SMSA includes contiguous counties if the

counties meet certain criteria and are "socially and economically integrated with the central city."² This group of counties must have at least one city of 50,000 inhabitants or "twin cities" whose combined population totals at least 50,000. New England, where cities and towns, not counties, are the components of SMSAs, is an exception to the rule.

An urbanized area, defined by the Census Bureau in 1950, differs from a SMSA in a number of ways. An urbanized area is comprised of one or more central cities and an urban fringe. Urbanized areas are not defined by county limits. The urbanized area can be thought of as the core of the SMSA, which can include some rural territory (i.e., a remote part of an SMSA's county that does not meet density requirements

or urban fringe criteria). SMSAs can and often do include suburban development.

Nonmetro areas which gained net migrants during the Turnaround did so for a number of reasons. Job opportunities have traditionally been an influential pull factor in a migrant's decision to move. As cities became decentralized and job opportunities increased in nonmetro counties, the numbers of metro to nonmetro migrants increased. However, motivations for moving during the Turnaround became less economic in nature. Certain rural counties were perceived by the migrants as more attractive in their amenities or quality-of-life. Migrants to nonmetro areas emphasized the importance of noneconomic factors in their decisions to move, according to Calvin Beale and Linda Swanson.¹

Table 1:
Metropolitan and Nonmetropolitan Annual Average Percent Change
by Region, 1970-80, 1980-82

Region	Metropolitan		Nonmetropolitan	
	1980-82	1970-80	1980-82	1970-80
United States	1.04	1.00	0.83	1.34
North	0.09	0.08	0.17	0.77
Northeast	0.11	-0.10	0.29	0.94
New England	0.29	0.23	0.77	1.45
Middle Atlantic	0.06	-0.19	0.01	0.65
North Central	0.07	0.26	0.13	0.71
East North Central	-0.11	0.18	0.01	0.92
West North Central	0.70	0.55	0.29	0.47
South	2.01	1.96	1.04	1.53
South Atlantic	1.79	1.93	1.02	1.70
East South Central	0.70	1.34	0.41	1.37
West South Central	2.95	2.33	1.68	1.44
West	1.88	2.04	2.14	2.65
Mountain	2.70	3.45	2.37	2.70
Pacific	1.67	1.72	1.83	2.59

Source: Richard L. Forstall and Richard A. Engels, "Growth of Nonmetropolitan Areas Slows," Bureau of the Census, Press Release, March 16, 1984

Note: Metropolitan Statistical Areas are as defined by the Office of Management and Budget effective June 30, 1984

The Turnaround's Turnaround

The onset of the Eighties appears to have marked an end to the Turnaround. Between 1980 and 1982 metropolitan areas gained almost 4.1 million inhabitants in contrast with the nonmetropolitan areas' increase of 1 million. Table 1 compares metro and nonmetro average annual percent changes for two periods. While nonmetropolitan America grew at an average rate of 1.34 percent annually in the 1970s, this has dropped substantially to 0.83 percent between 1980 and 1982. The South and West continue to grow at a much faster pace. Although the data do not depict across-the-board decreases in nonmetro growth (nonmetro growth in the West South Central did experience a slight increase between the two periods), the results indicate a slowing of nonmetropolitan growth and the revival of metropolitan area growth in the 1980s. Those leaving metro areas for nonmetro areas are classified as in-migrants, while out-migrants are defined as those leaving nonmetro areas for metro areas. By subtracting the out-migration rate from the in-migration rate the net migration rate is com-

puted. The nonmetropolitan population at the end of the interval serves as the denominator for both rates. Ideally, a base population at the beginning of the interval would be used, but when computing for a period as short as one year, using end of the interval figures should not result in any significant change. Positive net rates indicate a preponderance of migrants from metro areas over those leaving nonmetro areas (more in-migrants than out-migrants).

Leaving the Metropolis

Differences in net migration rates between the periods is a likely explanation for the changes in growth patterns. A comparison of net migration rates for a one year interval in the middle of the Migration Turnaround (1975-1976) and rates for an interval in the early 1980s (1982-1983) clearly shows that the flow of migrants to rural America is not as strong in the early 1980s as it was during the Turnaround. Table 2 provides this comparison, showing that net migration rates for the mid-year interval of the Migration Turnaround indicate a net movement of migrants to non-

metropolitan areas. This is true for both males and females except those age 16 to 24.

The picture of metropolitan mobility changed dramatically by the early 1980s. By 1982-1983, a near balance of people migrating between metro and nonmetro areas had occurred. The Migration Turnaround may have been a phenomenon restricted to the 1970s. If indications of its presence still exist today, it is safe to say that the phenomenon is past its heyday.

Whether or not metropolitan areas will grow at a faster pace through the remaining years of this decade is not known. In any case, the ramifications of augmented metropolitan growth are potentially significant ones. Because of this, the need to monitor the urbanization or ruralization of the United States will always be of great concern to demographers. □

FOOTNOTES

1. As of June 30, 1983 the Office of Management and Budget redefined metropolitan criteria. The term SMSA was changed to MSA (Metropolitan Statistical Area) with different standards applying. For explanation of these criteria see Richard L. Forstall and Maria Elena Gonzalez, "Twenty Questions: What You Should Know About the New Metropolitan Areas," in *American Demographics*, April 1984.

2. Census of the Population: 1970, Volume 1, Characteristics of the Population. Part A *Number of Inhabitants*. Washington D.C.: U.S. Government Printing Office, 1972, pp. xii-xiii.

3. Linda L. Swanson and Calvin L. Beale, "Patterns and Variations of the Flow of Metropolitan Migrants to Nonmetropolitan Counties, 1975-1980," Economic Research Service Publication, Washington, D.C.: U.S. Dept. of Agriculture, 1983, pp. 4-6.

Table 2:
Net Migration Rates per 1,000 Population
by Age and Sex for Nonmetropolitan Areas
of the United States, 1982-83 and 1975-76

Age	Males		Females	
	1982-83	1975-76	1982-83	1975-76
16-24	-10.99	-8.21	-18.08	-12.47
25-34	+2.43	+20.10	+0.35	+11.22
35-44	+4.12	+6.69	-1.55	+5.24
45-64	+5.07	+9.07	+2.30	+9.73
65+	-0.14	+9.10	+1.11	+4.85

Source. Series P-20, No. 393, Geographic Mobility: March 1982-March 1983 and Series P-20, No. 305, Geographic Mobility: March 1975-March 1976.

Note. Both of these volumes use the 1970 Census Bureau definition of SMSA.

World Food News

Continued from Page 2

Outrunning Food-Producing Capacity

As the FAO study shows, however, if food remains in the country where it was produced, the picture completely changes; in 2000, 14 percent of the LDCs' projected total population (excluding China) exceeds the projected food potentials of their countries. (See Table 2, page 9.)

As the table shows, Southwest Asia is the region where population growth is projected most likely to outrun the food-producing capacity of the region's countries. Even with high agricultural input, a sixth of the projected 2000 population growth would have to be fed from other sources. Africa and Southeast Asia populations will also exceed the physical supporting capacity of their land unless agricultural inputs are increased; if they are, however, the table shows that improvement can be major.

In the LDCs, 36 percent of the potentially cultivable land was already in use in 1975 (by contrast, 77 percent is the figure for the more developed countries). That figure, however, varies from country to country and region to region; 92 percent of the potentially cultivable land in Southeast

Asia is already in use, for example, while the figure for South America is only 15 percent.

About 22 percent (11.6 million sq. miles) of the earth's land surface is considered cultivable; of this, about half needs improvement before it can be used; flooded areas drained, arid areas irrigated, with costs and the availability of capital for such an undertaking a big question mark.

"By the end of the century," the report concludes, "shortage of land will have become a critical constraint for about two-thirds of the population of the developing countries." Between 1980 and 2000, the amount of arable land available in those countries will fall from 0.37 to 0.25 hectares (0.91 to 0.62 acres) per capita.

The "Potential"/"Actual" Paradox

Nevertheless, the report concludes that agricultural production could be doubled in the LDCs by the end of the century. If so, malnutrition would be greatly reduced, though still not elimi-

nated. About 14 percent of the increase would have to come from cropping land more often, 60 percent from improving yields, and 25 percent from bringing 150 million hectares (370 million acres) of new arable land into production. This means increasing the area of cultivated land by 20 percent.

How can a study which concludes that there is enough land to feed world population be called "grave" by some observers? Simply because of the alarming mismatch between the world's population and its best agricultural land. This, combined with poverty and strained Third World economies, appears to make the mere existence of sufficient land irrelevant.

The bottom line of the FAO report is that bringing the majority of the world's land under cultivation and raising agricultural investment and technology, while daunting enough tasks, are by themselves insufficient to alleviate hunger. Some very low-tech regions of the world will not be self-sufficient in food in the foreseeable

continued on next page

Table 1:
Projected or Estimated Population-Supporting Ratios by LDC Region

(Figure indicates the number of times by which the potential carrying capacity of the land exceeds the actual or expected population.)

Agricul. input*	Africa	Asia	SW Asia	South Amer.	Cent. Amer.	Total
1975: All cultivable land under food crops						
Low	2.7	1.1	0.8	5.9	1.6	2.0
Int.	10.8	3.0	1.3	23.9	4.2	6.8
High	31.6	5.1	2.0	57.2	11.5	16.3
1975: Actually cultivated land, one-third under nonfood crops						
Low	0.4	0.7	0.8	0.6	0.5	0.4
Int.	1.5	1.9	1.2	2.4	1.3	1.5
High	4.5	3.1	1.9	5.8	3.7	3.6
2000: All cultivable land under food crops						
Low	1.5	1.1	0.7	3.5	1.4	1.5
Int.	5.4	2.3	0.9	13.3	2.6	4.1
High	15.6	3.3	1.2	31.5	6.0	9.1

Source: Table compiled in Earthwatch No. 13, 1984, "Land and People, the Growing Pressure," by Paul Harrison, from the FAO study, *Potential Population Supporting Capacities of Lands in the Developing World*.

*For the purpose of the study, low agricultural inputs correspond to primitive subsistence farming such as found in most of Africa and large parts of Asia (hand labor, few modern resources); intermediate inputs add some basic fertilizers, mechanization, and conservation measures as in development project areas; and high inputs imply the heavily mechanized agriculture of North America with large fertilizer doses, and ideal crop mix.



Portion of a map prepared from the FAO study assessing the potential population-supporting capacities of LDC lands, given low levels of agricultural input. The diagonal-line areas are those where population already exceeds the potential capacity of the intra-country land to support them. See text for details.

World Food News

Continued from preceding page

Table 2:
Projected 2000 Populations of LDCs
(Excluding China) That Exceed the
Projected Food Potentials
of Their Countries - in Millions

(Percentages of regional populations that fall into the category are given in parentheses.)

Agricul. input*	Africa	SW Asia	South Amer.	Can. Amer.	SE Asia	Total
Low	256.8 (32.9)	107.6 (40.7)	0 (0)	18.0 (8.4)	70.7 (3.7)	503.1 (14.0)
Int.	48.2 (6.2)	78.5 (29.7)	0 (0)	6.9 (3.2)	7.7 (0.4)	141.3 (3.9)
High	2.3 (0.3)	41.9 (15.8)	0 (0)	0.5 (0.2)	3.1 (0.2)	47.8 (1.3)

Source: Summary data from tables 3.4 and 3.5, *Potential Population*.

*See Table 1 footnote for detailed definitions of agricultural input levels.

future. For their populations to be fed will require a level of international cooperation, trade, and foresight very different from today's world.

It is heartening that the potential for a decently fed world population exists. But to hope that this potential will effortlessly happen is fallacious. And the implication of the FAO's study (that "potential" does not necessarily convert to "actual") should not be branded as "pessimistic." Instead it should be considered realistic. □

The report is *Potential Population Supporting Capacities of Lands in the Developing World*, by G.M. Higgins, A.H. Kassam, and L. Naiken, Food and Agriculture Organization of the UN, and G. Fischer and M.M. Shah, International Institute for Applied Systems Analysis. Technical Report of Project INT 75/P13. Dated 1982 but published 1984.

New Strategies Against Water Scarcity

The world's most precious commodity, fresh water, is growing increasingly scarce due to widespread overuse and mismanagement, according to the most recent *Worldwatch Paper*. If current trends continue, lake and river quality will deteriorate, groundwater supplies will decrease, and fresh water shortages may restrict food production and economic growth, reports Sandra Postel, author of the report, "Water: Rethinking Management in an Age of Scarcity."

Globally, fresh water supplies are abundant. Postel maintains that "the volume of fresh water naturally renewed each year could meet the material needs of 5-10 times the existing world population." But those regions with the most water often are not those which need it most, and demands in many water-short regions are rising rapidly. A shortage of expected rainfall can contribute to a drought, as evidenced in much of Africa today. But other supplies of water, such as underground aquifers and inland lakes and seas, are currently being overused or mismanaged, endangering future water supplies.

In the Third World, failure to replant denuded hillsides accelerates runoff, flooding, and soil erosion. "Though impossible to quantify,

deforestation may be diminishing the Third World's dependable water supply by as much as expensive new dams and reservoirs are augmenting it," Postel says.

Governments continue to bank on more large dams and river diversions to relieve regional water shortages, according to the report. But high economic and environmental costs now make these ventures risky.

Despite emerging constraints, policies in most nations continue to promote waste and inefficiency. Conservation, typically viewed as a short-term strategy for dealing with droughts and other emergencies, offers greater benefits as a long-term option comparable to drilling a new well or building a new reservoir, Postel says. The report calls for new strategies such as conservation and better management, to prevent future emergency situations as the world's population, and thus water demands, grows. □

Copies of *Worldwatch Paper* 62, "Water: Rethinking Management in an Age of Scarcity," by Sandra Postel, are available from PRB. Single copies are \$4.00 each; 2-5 copies, \$3.00 each; 6-20 copies, \$2.00 each; 21 or more, \$1.00 each. Orders and checks (made payable to PRB) should be sent to: PRB, Circulation Department, P.O. Box 35012, Washington, DC, 20013 (PRB assists the *Worldwatch* Institute in the distribution of its papers).

Population Update

Estimated United States Population:

As of August 1, 1984 236,849,000

As of August 1, 1983 234,704,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 958.

Estimated World Population:

As of January 1985 4,803,000,000

Annual Growth 82,000,000

Estimated by extrapolation of the mid-1984 population given on the 1984 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: August 1984

Item	12 months ending with August					
	Number			Rate		
	1984	1983	1984	1983	1982	1981
Live births	3,638,000	3,678,000	15.5	15.8	16.0	15.9
Deaths	2,029,000	2,010,000	8.6	8.6	8.5	8.7
Natural increase	1,609,000	1,668,000	6.9	7.2	7.5	7.2
Marriages	2,454,000	2,473,000	10.4	10.6	10.6	10.6
Divorces	1,161,000	1,184,000	4.9	5.1	5.2	5.3
Infant deaths	39,000	40,400	10.7	11.0	11.4	11.9
Population base (in millions)	235.2 233.0 230.8 228.6					

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census.

Source: *Monthly Vital Statistics Report* (Vol. 33, No. 8) from the National Center for Health Statistics.

LETTER TO THE EDITOR

To the Editor:

In the October 1984 issue of *Population Today*, I noted with interest the citation of ratios of births to deaths (times 100). This ratio is identical with what the biologist Raymond Pearl called the Vital Index. (See, for example, his *Introduction to Medical Biometry and Statistics*, Philadelphia: W.B. Saunders Company, 1930, pages 229-236.)

Pearl attributed an almost mystical value to this index, writing that "there is no other statistical constant which furnishes so adequate a picture as this of the net biologic status of a population as a whole at any given moment." To me, however, its usefulness is pretty much limited to situations where base populations are not available for computing the conventional rate of natural increase.

Sincerely,

Henry S. Shryock
Professorial Lecturer
Georgetown University
Department of Demography

POSITIONS/ PROFESSIONALS

Study Director, Committee on Population, National Research Council, Washington, D.C.: To direct and administer the activities of the Committee on Population, including coordination of the work by committee members on international and national projects, and providing technical inputs for committee reports. Qualifications include a PhD in a social science or equivalent training or experience in population studies, including demography, and approximately 15-18 years of professional experience, including the management of research projects. Experience should also include social science research methods, analysis of population program data, technical demography, and writing skills. In addition, experience in international population activities is preferred. Contact: Personnel Office, National Academy of Sciences, 2101 Constitution Ave., N.W., Washington, D.C. 20418.

TAKE A NUMBER...

A Puzzlement: A not-infrequent question that comes into PRB is the percent of females in less developed countries (LDCs) who are of childbearing age. The caller often expects that this statistic will show larger percentages of women in childbearing ages in LDCs than in developed countries, thereby partially explaining LDCs' rapid population growth. But it just doesn't work that way. LDCs may in fact have a lower proportion in those ages. Syria, for example, has 43 percent of females in the childbearing years (15-49) and Denmark has 48. This is in part because Syria's very high fertility itself increases the proportion of children in the country thereby lowering the share of other age groups. In fact those aged 0-14 outnumber those 15-49! There are differences, however, within the 15-49 age group. Here, the LDCs' younger age structure shows up with higher proportions in the more fertile years, 15-29.

Risky Business: One's chances for a successful marriage in the U.S. have decreased dramatically over the past few decades, according to new estimates by Thomas P. Espenshade of the Washington-based Urban Institute. In 1975-1980, the probability of a marriage ending in divorce was 0.45 for white females, meaning that nearly half of their marriages will eventually break up. It was slightly higher for first marriages (0.47) and lower for remarriages, but not by much (0.42). For black females, the likelihood of divorce was slightly higher.

This represents large increases in divorce probabilities over past years. In

1940-1945, only 15 percent of white females' first marriages were likely to end in divorce and only 7 percent of remarriages. Whatever variance there may be in Espenshade's estimates is more likely to be on the high than low side for the more recent time periods. These estimates must assume that marriages of 1975-1980, for example, will be subject to the same divorce risk in later years as were the earlier "marriage cohorts." At a time when divorce rates are generally rising, this assumption may prove conservative.

Here and There: The Statistical Centre of Iran has announced plans for a 1986 census. . . South Korea is proceeding with the installation of 16 digital "population clocks" in 12 cities showing second-by-second population change. . . the decline of the U.S. farm population may have stopped in 1983, according to the Census Bureau, although the amount of change in the survey is not statistically significant. . . the Census Bureau has released a new series of state population estimates for 1970-1983 which give consistent time series, including an adjustment for the unusually large "error of closure" between the 1970 and 1980 censuses (*Current Population Reports*, Series P-25, No. 957). . . the Census Bureau measures many things, including how much homework gets done. In 1983, girls did more than boys, 5.7 hours per week vs. 5.2; private high school students did 14.2 hours per week, public, 6.5; blacks did more homework than whites at every level, whether public or private, and Hispanic students in private schools did more homework than anyone, 14.5 hours per week.

...addenda



And Now, Superdemographics: Demography has cracked the final barrier—acceptance by Hollywood! In one of this season's blockbuster movies, *Supergirl*, the heroine is seen attending math class as a schoolgirl. The teacher gives his students a problem to be solved at their computer terminals: Given the current family size and length of life in China, what will be China's population in 2040? Supergirl's attention, however, is elsewhere and the teacher calls upon her for the answer. But S-girl needs no computer. Making a smooth recovery, she instantly calculates the precise number: five billion, two hundred and seventy-one million, nine thousand—and ten. While Supergirl's projection may seem a tad higher than the UN's medium variant, at least she ended with a zero (to indicate it's just a projection?).

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

POPULATION AND SURVIVAL: The Challenge in Five Countries. by Georgia Lee Kangas. New York: Praeger, 1984. 249 pages. ISBN 0-03-071871-6

This ambitious book boils down the historical, religious, economic, cultural, and political conditions in India, the Philippines, Egypt, Bangladesh, and Mexico in an attempt to demonstrate the understanding needed to develop a sound population policy. The chapters focus on the most important aspects of each culture that influence the "population prognosis." Factors such as public health or the status of women are discussed insofar as they affect population.

The author qualifies her pro-family-planning stance by emphasizing the need for a profound knowledge of the cultural and historical setting of a particular country. Each country, she argues, should set goals for population stabilization but strive to reach those goals in the least disruptive way.

Each section at once sketches the "big picture" which requires government action, and regales the reader with cultural details which check that response. This would be a marvelous accompaniment to figures on fertility and mortality for the demographer who is unfamiliar with each country.

—Margaret Greene

REFLECTIONS ON POPULATION. by Rafael M. Salas. New York: Pergamon Press, 1984. 237 pages. ISBN 0-08-031588-7. \$30.00.

Salas, the Executive Director of the UNFPA and Under-Secretary-General of the United Nations (who served as Secretary-General of the International Conference on Population in Mexico City), wrote his *Reflections on Population* as a sequel to his *International Population Assistance: The First Decade*, published in 1979. The aim of the book is to characterize the work of the UNFPA with the developing countries up to 1984 and to relate these experiences to the issues before the Mexico City Conference.

The first chapter offers an overview of the significant developments in the field up to 1984, and the last chapter, Salas' reflections on the future of population assistance. The heart of the book lies in the remaining five chapters. Each

covers a specific population-related topic, such as Chapter 2, "Fertility, Status of Women, and the Family." The individual chapters follow a set format: a short opening introduction, extracts from Salas' policy statements on behalf of the UNFPA (the bulk of the chapter), and a final section entitled "Issues for the Future." In addition, the two appendices contain the five State of the World Population Reports of 1980-1984 and seven regionally focused population statements in their entirety.

The book offers plenty of commentary, and would prove particularly useful to those writers interested in compiling meaty population quotations: each of the excerpt sections provides quotable Salas statements, both long and short, on many aspects of this always complex and diverse field.

—Janine Adams

LABOR IMMIGRATION UNDER CAPITALISM: Asian Workers in the United States before World War II. edited by Lucie Cheng and Edna Bonacich. Berkeley: Univ. of California Press, 1984. 634 pages. ISBN 0-520-04829-5

This book of 17 essays is a fascinating account of Asian immigration into the U.S. from its inception in the 1850s up to World War II. The book covers the five major Asian groups that contributed to U.S. immigration: Chinese, Japanese, Koreans, Indians and Filipinos. The editors view the subject from a Marxist perspective, describing first the development of U.S. capitalism in the context of Asian immigration; second, Asian countries in context of political/economic causes for emigration to the U.S.; and finally, the Asian immigrants themselves. The chapters on socioeconomic groups are arranged in order of arrival, e.g., Chinese Prostitutes in 19th-Century America, Japanese Gardeners, Agricultural Workers in California, etc.

The authors' approach is that processes underlying international labor migration grow out of the logic of capitalist development. Extremely well written and documented, the book offers an approach that, Marxist or not, provides many perceptions on this aspect of American population history.

—Alex von Cube

COUNTRIES OF THE WORLD AND THEIR LEADERS YEARBOOK: 1985. Detroit: Gale Research, 1984. ISBN 0-8103-162-2809. \$95.00 per set.

This two-volume set provides in-depth country profiles for 168 nations, examining the people, geography, history,

economy, government, education, and foreign relations of each country. While principally a compilation of U.S. State Dept. data, *Countries of the World* is useful because of the variety and depth of its information—it includes everything from vital statistics to Who's Who in governments, health tips, and a climatological wrapup.

—Anthony Agresta

PUBLICATIONS RECEIVED

BHUTAN: Development in a Himalayan Kingdom. A World Bank Country Study. Washington, D.C.: World Bank, 1984. 177 pages.

EFFECTS OF CHILDHOOD FAMILY STRUCTURE ON MARRIAGE. by Frances E. Kobrin and Linda J. Waite. Santa Monica, Calif.: Rand Corp., 1984. 23 pages.

FARM POPULATION OF THE UNITED STATES: 1983 (Current Population Reports P-27, No. 57), Washington, D.C.: Bureau of the Census, 1984. 35 pages.

FROM BLACK MUSLIMS TO MUSLIMS: The Transition from Separatism to Islam, 1930-1980. by Clifton E. Marsh. Metuchen, N.J.: Scarecrow Press, 1984. 149 pages.

HUNGARY: Economic Developments and Reforms. A World Bank Country Study. Washington, D.C.: World Bank, 1984. 222 pages.

IPPF PLAN 1985-87. London: International Planned Parenthood Federation, 1984. 26 pages.

MALE INVOLVEMENT IN FAMILY PLANNING. by IPPF Staff. London: International Planned Parenthood Federation, 1984. 47 pages.

PHILIPPINES AND TAIWAN. by Susan De Vos. Honolulu: East-West Population Institute, 1984. 72 pages. \$3.00.

POPULATION OF JAPAN. Country Monograph Series no. 11, by the Economic and Social Commission for Asia and the Pacific. New York: United Nations, 1984. 345 pages.

A PROFILE OF HAWAII'S ELDERLY POPULATION. by Eleanor C. Nordyke, et al. Honolulu: East-West Population Institute, 1984. 39 pages. \$3.00.

RURAL DEVELOPMENT: Putting the Last First. by Robert Chambers. New York: Longman, 1984. 246 pages. \$5.95.

SOCIO-ECONOMIC DEVELOPMENT AND DECREASED FERTILITY IN COLOMBIA. by the Dept. of International Economic Affairs. New York: United Nations, 1984. 47 pages.

SPOTLIGHT

SRI LANKA

Population, 1984 (est.): 16.1 million
 Population per sq. mile (1984): 636
 Births per 1,000 pop. (1982): 27
 Deaths per 1,000 pop. (1981): 6
 Infant mortality rate, (1980): 34.4 infant deaths per 1,000 live births
 Rate of natural increase (1982): 2.1 percent
 Area: 25,332 sq. miles (about the size of West Virginia)
 Major exports (1981): tea, rubber — \$1.1 billion
 Major imports (1981): food, petroleum, fertilizer — \$1.8 billion
 GNP per capita (1982): \$320

The Republic of Sri Lanka (formerly Ceylon and, before that, Serendip) is a teardrop-shaped island nation located off the southeastern coast of India. Inland waters comprise 370 of Sri Lanka's 25,332 square miles; there is a mountainous south-central area, an upland belt, and a flat coastal plain which occupies the majority of the island. Sri Lanka gained its independence from Britain in 1948 through a process of peaceful constitutional evolution and is a sovereign, democratic republic.

Sri Lanka's 1984 population was about 16.1 million. Its population density per hectare of arable land is the sixth highest of any country in the world, though it is not very uniform. Population density is about 636 persons per square mile, but about two-thirds of the country's population is concentrated in the wet zone in the southwestern and central part of the country, which covers only 23 percent of the total land area. At the time of the 1981 Census, 22.6 percent of the total population was urban.

Sri Lanka's population increased for many years at an average annual rate of 2.5 percent, climbing to 2.8 percent in some years. Since 1970, however, there has been a reduction in the rate of population growth, down to about 1.7 percent in 1980, due to a decline

in birth rates and some emigration. Sri Lanka's 1963 total fertility rate of 5.0 children per woman declined to about 3.4 in 1974, although it appears to have risen somewhat to 3.7 since, due to an increase in the number of marriages.

Given the present fertility levels and patterns of family formation, the population of Sri Lanka is still likely to increase rapidly in the future. However, in recent years fertility in Sri Lanka has declined because of certain changes in women's behavior: Women who marry are doing so at a later age, more women in peak reproductive years are remaining unmarried, and married couples are having fewer children. These changes, in turn, are traced to improvements in education, and, to some extent, unemployment.

The dowry system and higher economic and social aspirations among both males and females also have an effect on marriage age. In Sri Lanka it is customary for a girl's parents to provide a dowry as a measure of security when she marries. While the amount of the dowry is increasing, the income level of the majority, who cannot afford to provide dowries for the daughters, is still below subsistence level. Though the dowry system has a negative effect on the status of wom-

en, it might be one reason for the rising age at marriage and the decline in the proportion of younger married females.

Ethnically, about 72 percent of the population are Sinhalese, 20 percent are Tamil, and 8 percent are other minorities, including Muslims, Burghers, Malays, and Vidhas. At present, racial tensions between Tamils and Sinhalese have resulted in unfortunate outbreaks of violence. Sri Lanka's level of literacy, 85 percent, is high for a developing country.

Sri Lanka's economy is predominantly agricultural, with manufacturing accounting for only 15 percent of the GNP. Tea, rubber, and coconut are the leading export products. Food, drugs, other consumer items, intermediate products, and investment goods are its chief import products. A strong inflow of foreign aid has helped Sri Lanka cope with foreign exchange problems and food deficits, and to develop investments.

Sri Lanka was among the first countries in Asia to recognize the relationship between population dynamics and socioeconomic development, and the need for policies and programs aimed at moderating population growth rates as well as achieving an equitable internal distribution of the population. The national government has adopted a clear policy of population redistribution that calls for channeling the main flow of population towards the country's dry zone. The government has also been aware of the potential problems of unrestrained population growth. The country's leaders have consistently recognized the need for adoption of policies, and there has been a substantial input of foreign funds into the family planning program of Sri Lanka. □

PT again thanks Mohammed Nazrul Hoque, a doctoral candidate from Bangladesh at Penn State for his assistance in preparing a "Spotlight."



World Bank photo by Tomas Sennett

Rice production is important in densely populated Sri Lanka.

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POPULATION TODAY™



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Australia Information Service photo by John McKinnon.

A herd of cormo wethers, dogs and shepherd. What's up Down Under? See PT's "Spotlight" on Australia, page 12.

Population and Development: Challenging the Consensus

One of the basic premises of U.S. international population assistance programs—that slower population growth is beneficial to social and economic development in the Third World—is being questioned by scholars and public officials in the United States. This challenge to what many had accepted as conventional wisdom comes just as many developing country leaders have agreed that slower population growth is necessary for their countries to achieve more rapid economic development—a position reflected in resolutions

at the International Conference on Population (ICP) in Mexico City last August.



Rafael M. Salas

Widespread public attention was first drawn to dissenting views in the U.S., during the summer of 1984, when a draft version of the U.S. position paper for the Mexico City meeting was circulated with statements that "the relation between population growth and economic development is not a negative one" and that "in the American experience and in the economic history of most advanced nations, population growth has been an essential element in economic progress." At

the ICP the U.S. delegation pushed free enterprise as the key to economic development.

Dissenters and Revisionists

Articulation of dissenting views continued at a recent session titled "Are World Population Trends a Problem?" sponsored by the American Enterprise Institute in Washington, D.C. as part of its Public Policy Week. This annual event attracts distinguished public figures, businessmen and women, and specialists from a variety of fields. The population program included formal presentations by Rafael Salas, Director of the UN Fund for Population Activities; Samuel Preston, President of the Population Association of America (PAA) and co-author of a forthcoming report on population and development relations for the National Academy of Sciences; and Lord Peter Bauer, of the London School of Economics and a well-known critic of conventional views on a wide range of development topics. A panel representing various points of view on population policy commented on the papers.

Preston argued against resorting to the negative effects of population increase as a rationale for most existing national and international population programs. Instead he cited these programs' cost-effectiveness, their positive effects on individual and family welfare, and their contribution to balancing individual and societal interests as reasons for his support of them. Preston went on to say that rapid population growth in most times and places is a relatively minor factor in reducing per capita income and other indicators of welfare, and that most available evidence suggests that while demographic factors affect the accumulation of physical and human capital, their impact is weak. He concluded by noting the risks involved in basing population programs on such shaky ground.

In his paper, Lord Bauer presented a frontal attack on population

Continued on page 8

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University students*	10	12.50
Educator—associate**	10	12.50
Educator—regular	20	25.00
Library (public, university, school)	40	50.00
Corporation or institution	200	250.00

*With photocopy of student ID

Does not include **Population Today and **Population Bulletins**

Population Pressures Intensify In Sub-Saharan Africa

The population of sub-Saharan Africa's 42 nations, estimated by the United Nations at 434 million as of mid-1984, is likely to more than triple to 1.4 billion in the next 40 years. Annual growth is now about 3.1 percent—up from 2.5 percent in the 1960s—and rising. Birth rates are collectively the world's highest at an average 48 per 1,000 population and show no signs of falling, while death rates averaging 17 per 1,000 are falling.

Though not the only cause, this tremendous population growth is a key factor in the food crisis that now has the world's attention focused on Africa, says Thomas Goliber in PRB's February 1985 *Bulletin*, "Sub-Saharan Africa: Population Pressures on Development." It is also braking the region's efforts to catch up with the demand for jobs, education, and health services, and cope with exploding cities.

Goliber adds a hopeful note, saying that the climate for policies to reduce population growth as an aid to development is changing "perceptibly." Africans have shunned such policies in part because many viewed them as a Western tactic to gloss over inequalities in the world economic order which they considered the real root of the region's poverty and slow development. As late as 1982, family planning "effort" in the different countries was graded "weak" to "none" in a listing prepared for the World Bank.

Turning to Family Planning

Now government heads like Major General Buhari of Nigeria (the region's population giant at an estimated 92 million in 1984) are leaning more strongly toward programs to reduce population growth, and family planning was stressed in the Kilimanjaro Programme of Action on Population endorsed by 36 of the nations in January 1984. By mid-1984, at least 13 of the 42 nations supported public and/or private family planning services explicitly to reduce fertility; 26 in all provided some direct government services.

Though triggered by drought, sub-Saharan Africa's current food crisis has been brewing for two decades,



World Bank photo by Ray Withn

Explosive livestock increase, spurred by human population growth, is turning 24,000 square miles of African land into desert each year.

Goliber observes. Per capita food production has been declining since the 1960s, due to a combination of rapid population growth, land degradation, political upheavals, and government policies which give short shrift to farmers. This in turn has contributed to a decline in per capita income in the 1980s, although the regional per capita GNP in 1983, \$595, was still more than double the \$260 regional average for Bangladesh, India, Nepal, Pakistan, and Sri Lanka, according to World Bank estimates.

The economic slowdown is likely to retard the gains in school enrollment and life expectancy that African nations have registered since independence in the early 1960s, despite rapid population growth. Potentially the region's most explosive issue, Goliber argues, is the growing gap between the number of primary school graduates and jobs available in the modern sector which such graduates came to expect during the colonial era.

Recent surveys in 10 of the region's countries conducted as part of the World Fertility Survey (WFS) indicate that most African women want a family even larger than the current total fertility rate of well over six births per woman. Reducing that desired family size will take a sharp cut in deaths to children under age five, which currently account for half the

annual deaths in most of the countries, and more educational and economic opportunities for women in particular, Goliber says.

The Next Generations

He is not optimistic that large numbers of African women will adopt modern contraception in the 1980s; the highest proportion of married women of childbearing age using modern contraception found in the WFS surveys was 6 percent, in Ghana. But family planning programs to distribute modern methods, now being adapted to the special needs of sub-Saharan Africa's still overwhelmingly poor and rural population, can meet the demand when it arises. Goliber sees this as likely to emerge first among the second and third

Continued next page

Vietnam Invokes Birth Penalties

Dissatisfied with their country's progress in stemming rapid population growth, Vietnamese authorities have decided to supplement family planning propaganda with penalties, mostly economic.

Vietnam's population of over 58 million, ranked 13th among the world's countries, continues to grow at a rate of about 2.4 percent annually. The 1.3 million babies added to the population every year force Vietnam to provide an extra 400,000 tons of food annually to maintain current food levels. Seeing a need for stringent family planning and reluctance on the part of the citizens to comply, Vietnamese authorities plan to institute incentives, or rather, disincentives, to encourage family limitation. The "recommended" maximum number of children per family is two; families exceeding this number will forfeit their chances of becoming "elite workers" as well as all bonuses and chances for promotion.

In addition, in some parts of the country, couples who have three children risk losing their jobs; in other places such families can be deprived of permission to live in urban areas, forcing them into internal exile in the countryside. □

FROM THE EDITOR'S DESK

The most provocative piece of population journalism in some time is surely Michael Weisskopf's reportage on China's one-child population program, which appeared in a recent *Washington Post* series (Jan. 6-8, 1985).

Weisskopf, former Beijing correspondent for the *Post*, describes in detail the ongoing conflict between government pressure to limit births and couples who want more children—the government puts in IUDs, free-enterprise "hook wielders" remove them; government inspectors require sterilizations, the couples come up with forged sterilization certificates. Whether or not the one-child family has resulted in increased female infanticide—a crime in China—(it may or may not be a spotty phenomenon), there's no question that pressure to conform to China's present childbearing policy can be harrowing. (Early in 1984 possible softening of the one-child policy was hinted at in the Chinese press—see *PT*, May 1984.)

Remember when China was pronatalist? It was, during the 1950s. Since then, however, looming projections have spurred increasingly rigorous population programs (late marriage, the two-child family), each one touted as the cure-all. Now, other less developed countries are becoming convinced that the fantastic population projections on their calculators are for real. Like it or not, the kind of headlines seen in the *Post* series are liable to become more common (see Vietnam on preceding page, for example).

—Art Haupt

Population Pressures

From preceding page

generations of urban dwellers, who are increasing twice as fast as national populations as a whole, and among daughters of the women now receiving some primary school education for the first time.

Goliber has traveled widely in sub-Saharan Africa and worked closely with political leaders and technical experts in the region since 1979 when he joined the consulting firm, The Futures Group, in Washington, D.C., to work on the USAID-sponsored project

Resources for the Awareness of Population Impacts on Development (RAPID). □

Copies of the 46-page *Population Bulletin*, "Sub-Saharan Africa: Population Pressures on Development" (Vol. 40, No. 1) can be ordered from the Population Reference Bureau for \$4.00 each; 2-10 copies, \$3.00 each; 11-50 copies, \$2.50 each; over 50, \$2.00 each. Handling charges, inside the U.S., add \$1.00 to each order; outside the U.S., add 25 percent of cost of *Bulletins* ordered. Send order and remittance to PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013.

U.S. Ends Aid to IPPF

On Dec. 11, the collision finally occurred between an irresistible force and an immovable object. The U.S. Agency for International Development announced it would stop funding the International Planned Parenthood Federation because of IPPF support of member organizations' abortion activities.

Said the AID statement: "Under U.S. policy outlined at the International Conference on Population (ICP) in 1984, the United States will no longer contribute to separate nongovernmental organizations which perform or actively promote abortion as a method of family planning in other nations." This proscription marks a tightening of the U.S.'s decade-long policy against abortion providers. Previously, AID had required that nongovernmental family planning groups keep U.S. funds in segregated accounts. (Under 1973 U.S. law, government funding itself cannot be used to promote abortion.)

The AID announcement also marked a broad interpretation of what constitutes abortion promotion. "The IPPF has not in the past, and does not now, perform or actively promote abortion as a method of family planning in other nations," wrote IPPF Secretary General Bradman Weerakoon in a letter to AID Director M. Peter McPherson. What was in dispute, rather, was IPPF's allocation of some 0.5 percent of its annual budget (presently about \$52 million) to support abortion-related activities (not abortion services per se) such as conferences, medical research, treatment of abortion medical cases.

IPPF felt its responsibility to the family planning organizations within its federation precluded it from altering

its policies to meet U.S. requirements. The U.S. contribution had been expected to amount to about \$17 million (FY 1985)—nearly one-third of the total IPPF budget.

The week before the AID announcement was made, in anticipation of AID's decision, IPPF had announced that it was cutting its budget by 30 percent, and would close some field clinics and cut grants to national family planning groups. IPPF's Central Committee was planning to meet in late January 1985 to further consider the funding problem and policy situation.

At the ICP, held in Mexico City in August 1984, U.S. Amb. James Buckley stated that were the U.S. to withhold funds from any organization under its new policy, it would seek ways to ensure that those same funds wound up used for family planning programs. At the beginning of 1985, this alternative remained to be worked out. □

SURVEY REPORT

East Java

Results of a longitudinal population survey in East Java, Indonesia, have been published by the government of that Southeast Asian country in cooperation with POPLABS of Chapel Hill, N.C.

Although accounting for only 20 percent of a national population of 161 million, this eastern edge of Indonesia's primary island is one of the most densely populated areas in the world, with 600 persons per square mile.

Continued next page



East Java

From preceding page

About 80 percent of the people live in small rural villages. Although (or perhaps because) this area has historically had lower fertility and population growth rates than the rest of Indonesia, East Java was selected as a primary target for resources and efforts of the national family planning program in the early 1970s. This special attention paid off, and East Java became a showplace of a national program which has itself been proclaimed an international "success story."

The two-year population study, begun in 1980, was designed to provide estimates of fertility, mortality, and contraceptive use to evaluate the family planning program there and to monitor trends since 1970. Recent population trends are of particular

interest after the 1980 Indonesia Census surprised many analysts by "finding" 5 million more people than predicted.

The survey results confirmed a dramatic decline in fertility since 1970. The total fertility rate (TFR), or average number of children per woman, fell 40 percent over the decade, from 5 to 3 children. These rates compare well with the 1976 World Fertility Survey TFR of 4.3 for Java and Bali.

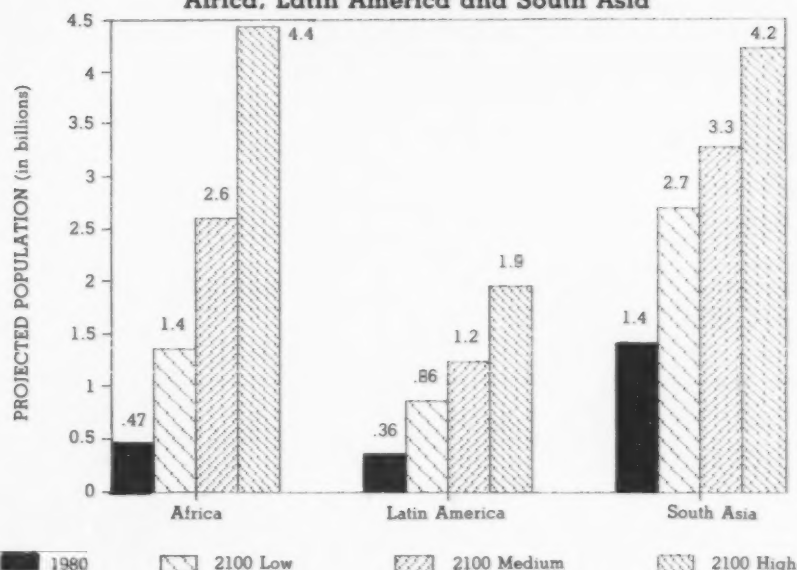
There were marked urban/rural differences in the infant mortality rates (IMR) recorded, with an IMR of 44.6 in the cities and 74.9 in the countryside, although both were lower than the national rate of 92 infant deaths per 1,000 live births for all Indonesia.

Family planning data from the two rounds of the survey revealed the expected increase from the 1976 WFS

contraceptive use rate for East Java of 31 percent, but there were also some surprises. The percent of married women using birth control declined from 42 to 39 percent between 1979 and 1980-1981. Erosion in use of the pill among women of all ages accounts for this difference. In addition, this island is somewhat of an anomaly: in most countries, contraceptive use is higher in the cities, but in East Java this rate is 4 percentage points lower in urban than in rural areas. This may be a result of the structure of the national family planning program, which relies upon a community-based distribution of contraceptives, a system less effective in large cities than in the more socially cohesive villages. □

SPEAKING GRAPHICALLY

Long-Range Population Projections for Africa, Latin America and South Asia



This graph shows a rather dramatic example of just how greatly projections of the populations of the world's regions can vary, depending upon the assumptions. For all three regions depicted above, the United Nations projections were run with varying assumptions on just when their fertility might decrease to the "two-child family" level required to achieve the ultimate stabilization of population size. For Africa, the low projection assumes the replacement level would be achieved in 2030; the high, in 2065.

What's a little three-and-one-half decade difference between friends? Quite a lot, actually: if the two-child family is achieved 35 years later in Africa, about 3 billion people more! For Latin America, the low assumption is 2025 and the high, 2060 (and 1 billion more people); for South Asia, it is 2010 and 2040, respectively (and 1.5 billion more).

Source: 1980 Assessment of the UN Population Division.

Midwest Bottoms Out

Several Midwest states, which had been undergoing difficult economic times and losing population began slowly gaining again during 1984, according to U.S. Census Bureau estimates. Ohio, Indiana, Michigan, and Iowa experienced small population increases from July 1983 to July 1984; despite these increases, all but Indiana had smaller populations in 1984 than in 1980. Even the District of Columbia has arrested its decline, stabilizing at 623,000 in mid-1984.

By contrast, some energy-producing states, West Virginia, Oklahoma, and Wyoming, experienced population declines. And Texas, which, along with California, had been a major gainer until recently saw its growth rate drop sharply. Texas had been swelling by half a million per year, but grew by only 200,000 in 1983-1984, indicating that most of Texas's growth was due to natural increase (births minus deaths) rather than migration. (Note: As reported in PT in Dec., the Census Bureau has changed the name of the former North Central Region to "Midwest." Within it, old East North Central and West North Central divisions remain, however. "East Midwest," and "West Midwest" don't quite make it, do they? □

DEMOGRAPHER'S

1980 Rates of Emigration to the United States

by Morton D. Winsberg

The volume and origin of immigrants into the United States has been much examined in recent years in terms of the impact of the immigrants on the social and economic lives of Americans. Less well known is the impact of emigration to the U.S. on the population of the nations from which the emigrants depart.

The table on the opposite page shows the rate of legal immigration to the U.S. per million inhabitants of the emigrant nation for 1980. Since the true number of illegal immigrants into the U.S. cannot be documented, the actual rates are undoubtedly higher than those shown here for some countries. Nevertheless, the table presents an unusual perspective on the effect of U.S. immigration policy.

In 1980, for every 1 million world inhabitants, the United States accepted 118 immigrants. This acceptance rate is low compared with those in years during the last century when the number of immigrants to this then relatively unpopulous nation was large. In four years during the period 1880 to 1915 the rate rose above 600. Indeed, in 1907 it exceeded 700. The rate rose above 200 for the last time in 1924, and in most years since then it has been below 100. During the decade of the 1970s, however, it began to rise once more, and has been above 100 since 1977.

Prolific Senders

Though the acceptance rate for the world as a whole may seem low,

the reader should note that a number of countries greatly exceeded that rate, some with rates in the thousands. The table reveals, for example, that the rate for Antigua in 1980 was 11,558 per million inhabitants; in other words, in one year on the average, over 1 percent of Antigua's population emigrated to the U.S.

Perspective on the 1980 rates can be gained by a look at emigration rates through history. In the 19th century, during their peak decades of migration to the U.S., Ireland and Norway contributed a larger share of their populations to the U.S. than any other nations. In Ireland, during the 10 years following the potato famine, there was a mass exodus in which the annual rate of emigration to the U.S. normally exceeded 20,000 people per million inhabitants, nearly reaching 30,000 in 1851. In Norway during the 1880s, as a result of a rapidly growing rural population compounded by a period of low farm commodity prices, the rates averaged nearly 10,000 per year, rising to nearly 16,000 in 1882.

By contrast, in 1980 the countries most likely to send large proportions of their populations to the U.S. were small, densely populated nations, often English-speaking former island colonies near the U.S. These included the Caribbean island nations of Antigua, Barbados, Dominica, Grenada, Jamaica, St. Lucia and St. Vincent, and the mainland Western Hemisphere former British colonies of Belize and Guyana. All had emigration rates to the U.S. in 1980 which exceeded 6,000. For the past 15 years, the rates for these countries have been among the highest in the world. The case of Puerto Rico, which averaged approximately 7,000 annually for the past two decades, demonstrates

that a rate of 6,000 or more (if sustained for a prolonged period) can provide tangible relief to the economy of a nation. It is widely acknowledged that employment opportunities for its citizens in the U.S. have been a major benefit to Puerto Rico's economy.

No Safety Valve

Since high rates are a function of a small population base, few nations with large populations in 1980 had high rates of emigration to the U.S. For those countries with populations larger than 20 million, only Canada, Korea, Mexico, the Philippines, and Vietnam had rates greater than 500. Also, those nations which had high rates in the 19th century did not maintain them into the late 20th century. In Europe, only Portugal, Greece, and Iceland have rates that exceed 400. Most other European countries have rates below the world average of 118.

As a way of significantly lessening population pressures, emigration to the U.S. can benefit only nations with small populations and even then the emigration must be sustained. Mexico's population, for example, is currently growing at over 2 million people per year. If Mexico's rate of emigration to the U.S. were to reach the level of that of Norway in the late 19th century (or Puerto Rico today) immigrants from Mexico would number approximately 750,000 annually, far greater than the total legal immigration into the U.S. in 1980. □

Immigrants to the United States Per Million Population of the Emigrant Nation, 1980*

WORLD	118	Israel	891	Martinique	112
Northern Africa	37	Jordan	1130	Netherlands Antilles	1036
Algeria	9	Kuwait	208	Puerto Rico	6243
Egypt	75	Lebanon	1631	Saint Lucia	8421
Libya	49	Oman	24	St. Vincent & the Gren.	6016
Morocco	23	Qatar	60	Trinidad & Tobago	4161
Sudan	4	Saudi Arabia	14	Tropical South Amer.	156
Tunisia	14	Syria	201	Bolivia	134
Western Africa	31	Turkey	49	Brazil	13
Benin	12	United Arab Emirates	29	Colombia	412
Cape Verde	2772	Yemen, North	37	Ecuador	652
Gambia	37	Yemen, South	137	Guyana	9004
Ghana	81	Middle South Asia	40	Paraguay	53
Guinea	3	Afghanistan	64	Peru	243
Guinea-Bissau	11	Bangladesh	7	Suriname	250
Ivory Coast	3	Bhutan	8	Venezuela	60
Liberia	229	India	31	Temperate South Amer.	138
Mali	1	Iran	258	Argentina	93
Mauritania	4	Maldives	11	Chile	209
Niger	2	Nepal	6	Uruguay	300
Nigeria	21	Pakistan	52	Northern Europe	219
Senegal	13	Sri Lanka	28	Denmark	93
Sierra Leone	75	Southeast Asia	296	Finland	69
Togo	4	Brunei	97	Iceland	759
Eastern Africa	24	Burma	37	Ireland	283
Burundi	3	Cambodia	992	Norway	94
Comoros	3	Indonesia	6	Sweden	94
Djibouti	14	Laos	3175	United Kingdom	264
Ethiopia	39	Malaysia	58	Western Europe	71
Kenya	38	Philippines	582	Austria	50
Madagascar	2	Singapore	145	Belgium	43
Malawi	7	Thailand	85	France	33
Mauritius	4	Vietnam	758	Germany	105
Mozambique	6	East Asia	55	Luxembourg	167
Reunion	4	China	26	Netherlands	78
Rwanda	2	Hong Kong	1028	Switzerland	103
Seychelles	254	Japan	34	Eastern Europe	76
Somalia	9	Korea	793	Bulgaria	19
Tanzania	21	Macao	1094	Czechoslovakia	57
Uganda	27	North America	533	Hungary	70
Zambia	33	Canada	533	Poland	132
Zimbabwe	30	Middle America	982	Romania	82
Middle Africa	6	Belize	7870	Southern Europe	158
Angola	24	Costa Rica	606	Albania	10
Cameroon	6	El Salvador	1333	Greece	491
Central African Rep.	1	Guatemala	482	Italy	97
Chad	1	Honduras	653	Malta	580
Congo	8	Mexico	999	Portugal	759
Equatorial Guinea	33	Nicaragua	937	Spain	49
Gabon	5	Panama	2045	Yugoslavia	94
Zaire	2	Caribbean	2853	USSR	28
Southern Africa	60	Antigua & Barbuda	11558	Oceania	156
Botswana	6	Bahamas	2767	Australia	95
Lesotho	5	Barbados	10068	Fiji	1464
Namibia	22	Cuba	1426	French Polynesia	265
South Africa	66	Dominica	10476	New Zealand	215
Swaziland	22	Dominican Rep.	3045	Papua-New Guinea	3
Southwest Asia	194	Grenada	10168	Samoa, Western	2481
Bahrain	86	Guadeloupe	179	Solomon Islands	48
Cyprus	491	Haiti	1213	Vanuatu	45
Iraq	205	Jamaica	9432		

*Three year average 1979-1981

Sources: Immigration and Naturalization Service Yearbook - 1981 (1984); 1980 World Population Data Sheet, Population Reference Bureau, Inc.

Population & Development

Continued from Page 2

programs. He said that "there is no case, on either moral or economic grounds, to induce or press Third World governments officially to promote population control." He decried coercive practices that have accompanied government intervention, and argued that such programs were unnecessary anyway because "Third World people know about birth control and have access to cheap contraceptives." Bauer said that population growth has little to do with economic development or underdevelopment. He cited the

LETTER TO THE EDITOR

I read your accurate account of the death of the Simpson-Mazzoli bill in Conference Committee (*PT*, Nov. 1984), and I wish to add a couple of points. To begin with, I must question the assertion that had a Conference Report been adopted, passage "seemed unlikely." The House, I believe, would have approved the Conference Report, because those provisions which appeared to cause the close House vote in June (216-211), namely the sweeping amnesty proposal and the Panetta-Morrison guest-worker program, were significantly scaled back in Conference.

In terms of Hispanic voters flexing "their political muscles," you failed to mention that numerous scientific public opinion surveys showed a vast majority of Hispanic citizens favoring the key components of the Simpson-Mazzoli bill. While the Hispanic leadership opposed Simpson-Mazzoli, the great majority of Americans, including blacks, Hispanics, and whites did support this important and necessary measure.

Sincerely,

Casey Dinges
Public Affairs Director
The Environmental Fund

work of Julian Simon, who was also an AEI panel discussant, and during his commentary on the papers, Simon argued that population growth has had positive effects on economic development.

Salas based his remarks on the conclusions of the ICP in Mexico City, for which he served as Secretary-General. He reiterated the strong consensus among representatives at the Conference, and stressed the mutually reinforcing relationship between population and development variables as reflected in the Mexico meeting's first resolution, which stated that "social and economic development is a central factor in the solution of population and interrelated problems and that population factors are very important in development plans and strategies, and have a major impact on the attainment of development objectives." Salas also stressed that UNFPA, as a UN agency, was required to respect national sovereignty in the formulation and implementation of population policies.

Search for the Middle Ground

The debate that followed continued the focus on both the moral and economic justification for government intervention in the realm of individual reproductive practices. Differences of opinion were sharp. Bauer was asked whether he was aware of findings in the World Fertility Survey about unmet need for family planning services, and Simon was questioned on the applicability of his theory about the beneficial effects of rapid population increase in the current context of sub-Saharan Africa. In response to these questions, these two dissenters reiterated their previous stances.

Drawing on the paper which he wrote for PRB's Population Trends and Public Policy Series (see box at right), discussant Allen C. Kelley of Duke University suggested that a revisionist view of population and development interrelations has emerged which deemphasizes the direct influence of population growth on development and assigns

it a role as an accomplice rather than villain (or hero) in the development story.

While the audience did not participate in the discussion, several of its members, including a number of individuals with considerable experience in the population field, expressed disappointment after the meeting. The dissenters, they said, could not recognize a middle ground between a single-minded view of rapid population growth as the only cause of underdevelopment versus equally strong assertions that population growth actually plays no role in aggravating developing country problems, such as food scarcity, employment, and provision of social services.

For some who had observed the deliberations in Mexico, the AEI debate focused so much on the extremes that it failed to recognize the balance that ICP delegates were able to strike between encouraging progress in slowing population growth in many LDCs and their sobering assessment of what had to be accomplished in the future. □

New Population Debate: Two Views on Population Growth and Economic De- velopment

by World Bank economist Timothy King and Allen C. Kelley, professor of economics at Duke University. This 24-page issue of *Population Trends and Public Policy*, PRB's series for policymakers, explores the economic impact of rapid population growth in developing countries. The authors present different perspectives but agree on the fundamentals, rejecting alarmism about impending "population explosions" and the use of population growth as a scapegoat for all Third World ills. This *Trends* issue comes at a time when some policymakers are questioning the basic premises of U.S. population assistance. Together King's and Kelley's papers provide fresh insight into the renewed population debate. (\$3.00 each, bulk discounts available from PRB.)

WORLD FOOD NEWS

The UN's Food and Agriculture Organization (FAO) is currently improving its program for the use of satellite remote sensing technology, desert locust control. The FAO Desert Locust Control Committee (with 50 nation members), has coordinated this strategy to combat the crop-threatening desert locust, in a potential 16 million sq. kilometer breeding area.

On the basis of the information gathered by the satellite data, an accurate assessment can be made of the ecological potential for desert locust population development at nation, regional, and interregional levels. At the field level, this information can be used to guide ground and aerial operations for surveillance and preventive control, reducing costly aircraft detection operations. Remote sensing techniques are also proving useful for monitoring and forecasting of other important migratory pests, such as the African migratory locust, *Quelea quelea*, African armyworm and red locust. □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.



Locusts in the African desert.

JOHN ROCK (1890-1984)

John Rock, pioneer in fertility research, died Dec. 4, 1984, at the age of 94.

One of four doctors who developed the oral contraceptive during the 1950s, Dr. Rock began his career dealing with problems of infertility. He was the first scientist to fertilize a human egg in a test tube and he was one of the first to freeze human sperm cells without damaging their potency.

Dr. Rock, a committed Catholic, advocated a change in the church's stand against contraceptives and called for research into methods of contraception that would be acceptable to all religious faiths. (See his book, "The Time Has Come") However, he was never able to convince the Vatican that his oral contraceptives, which kept women from ovulating, were a form of natural birth control (and thus in keeping with the church's teachings).

During the 1960s, Dr. Rock testified before congressional committees and gave numerous lectures warning of the dangers of overpopulation and promoting contraception and birth control. □

Population Update

Estimated United States Population:

As of September 1, 1984	237,051,000
As of September 1, 1983	234,919,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 961.

Estimated World Population:

As of February 1985	4,810,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1984 population given on the 1984 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: September 1984

Item	12 months ending with September					
	Number		Rate			
	1984	1983	1984	1983	1982	1981
Live births	3,655,000	3,675,000	15.5	15.8	15.9	15.9
Deaths	2,033,000	2,010,000	8.6	8.6	8.6	8.7
Natural increase	1,622,000	1,665,000	6.9	7.2	7.3	7.2
Marriages	2,466,000	2,472,000	10.5	10.6	10.7	10.6
Divorces	1,159,000	1,178,000	4.9	5.1	5.2	5.3
Infant deaths	38,900	40,200	10.6	10.9	11.4	11.9
Population base (in millions)			235.6	233.2	231.0	228.8

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source: *Monthly Vital Statistics Report* (Vol. 33, No. 9) from the National Center for Health Statistics.

NEW FROM PRB

Sierra Leone: A Demographic Focus, a 16-page booklet prepared by PRB and the National Population Commission of Sierra Leone. The booklet uses text, statistics, and graphs to summarize the population history, status, and dynamics of this sub-Saharan African country. Copies are available from PRB for \$3.00 each.

The New Population Debate: Two Views on Population Growth and Economic Development, by Timothy King and Allen C. Kelley. Part of *Population Trends and Public Policy* series (see story, page 8).

Sub-Saharan Africa: Population Pressures on Development, by Thomas Goliber. *Population Bulletin* Vol. 40, No. 1 (see story page 3).

Order information: Orders of \$20 and under must be prepaid and include \$1.00 postage and handling. Send order and remittance to PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013 (checks payable to PRB).

FAO Publishes Popular Version of Food Study

The UN's Food and Agriculture Organization (FAO) has released a simplified version of its comprehensive study of the food production capacity of less developed countries (see Jan. PT, page 2). *Land, Food and People*, a 96-page report, is a readable condensation of the longer report and discusses topics such as allowances for food and nonfood needs in agriculture; climate; a plan for action (including obstacles for implementing that plan) and other topics. A color map showing "critical zones" is included along with a number of graphs and charts.

The report gives the essential conclusion of the landmark study and is an ideal course supplement for schools and universities.

For order information, contact UNIPUB, Inc., Box 433 Murray Hill Station, New York NY 10157 (212) 764-2791. □

TAKE A NUMBER...

Sinking fast: A number of European countries which had reported sharp drops in their crude birth rates (CBRs) for 1983 have now also reported total fertility rates (TFRs) that confirm the trend. At least two countries have CBRs (births per 1,000 population) below 10: Denmark and West Germany's rates of 9.9 and 9.7 are probably the first instances in history of single digit CBRs in countries with large populations. West Germany's TFR—or the number of children women are having on average—dipped dramatically after holding for several years at about 1.4 births per woman. It is now 1.32, almost certainly the lowest TFR ever recorded. Even France's TFR which had remained above or near 1.9 for years, dropped sharply in 1983 to 1.82. Denmark has not reported a TFR, but it could also be approaching 1.3, based on the CBR for 1983. One cannot help but speculate about some country someday breaking the TFR 1.0 barrier...

U.S. Cuban Decrease?: With the wide press coverage given to the U.S.'s rapidly increasing Hispanic population, it is difficult to associate the idea of a numerical decrease with any U.S. Hispanic population. But this is a possibility for the Cubans in the U.S. Their crude birth rate of 10.9 births per 1,000 Cuban population could be low enough to cause an excess

of deaths over births in the not-too-distant future, particularly since the Cuban population is rather "old," with a median age of about 35. This is somewhat offset by immigration, but even that amounts to only about four or five thousand new arrivals annually.

Not So Equal: A disquieting fact came to light recently. Examining the U.S. mortality statistics, we noticed that the death rate in 1982 for the 65-69 year age group—24 deaths per 1,000 population—was very similar to the *total* death rate for many developing countries. Gambia, for example, has an estimated 28 deaths per 1,000 population. This means that the whole Gambian population, nearly half of which is below the age of 15, is subject to the same risk of dying as the U.S. elderly.

Here and There... the birth expectations of American women increased between 1982 and 1983 according to Census Bureau surveys. The number of children expected rose from 2,023 per 1,000 women to 2,079, a very slight increase but the first since 1976... Austria's population is again declining as of 1983, with 11.9 births per 1,000 population and 12.3 deaths... U.S. farmers as commuters: there's a growing trend for wage workers to live off the farm, 56 percent in 1983, according to the Census Bureau... Portugal reported a large birth rate drop in 1983, from 16.4 births per 1,000 population in 1980 to 14.4...

...addenda



drawing by Jimmy Margulies, Houston Post. Reprinted by permission.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

RURAL DEVELOPMENT IN CHINA, by Dwight Perkins and Shahid Yusuf. Baltimore, Md.: The Johns Hopkins University Press, 1984. 235 pages. \$25.00. ISBN 0-8018-3261-6

In 1980, China in one stroke "made obsolete the informed speculation" on its agriculture by releasing detailed rural statistics in preparation for joining the World Bank. This readable and well-organized book is solidly founded on those statistics.

Mao believed China's agriculture could be transformed simply through the mobilization of its enormous labor force; separate agricultural and industrial development strategies have resulted in a dual economy. China uses mechanization in rural areas only when there is not enough labor. But it has demonstrated a commitment to giving the rural poor a large share of benefits in spite of the country's typical urban bias, resulting in a tremendous reduction in abject poverty. Rural communes and Party bureaucracy make for speedy national adoption of new agricultural methods, but are "administratively cumbersome." China's consideration of the incentive system, which led to increased production in the 1980s, raises a major question of economics versus politics—is the government willing to forgo some control for increased production?

—Margaret Greene

FAMILY AND WORK: Comparative Convergences, edited by Merlin B. Brinkerhoff. Westport, Conn.: Greenwood Press, 1984. 220 pages. \$29.95.

This report examines the changes in traditional male/female familial and work roles in postindustrial society and the interdependence of these roles.

The book's first chapter presents an example of these changing roles: the wife of today who pursues a career in order to achieve self-fulfillment or to meet economic pressures, rather than (as in the past) to respond to her husband's inadequate filling of his role as breadwinner for the family. Brinkerhoff points out that in a two-career household it is most often the wife whose work situation is infringed upon by familial responsibilities, such as maternity leave or a sick child; while the husband is frequently expected to work long hours or take business trips, infringing upon his family role fulfillment.

Subsequent chapters concern the eco-

nomic, social and gender influences on the work and family roles of postindustrial family members. The specific topics range from "Regional Differentiation, Intra-industry Division of Labor, and Family Labor Supply in Peru," to "Weak Links in Men's Worker-Earner Roles: A Descriptive Model."

This volume provides readable, clarifying treatment of a universal but confusing issue of today's society.

—Maria Matan

AMERICAN DEMOCRACY AND THE VATICAN: Population Growth and National Security, by Stephen D. Mumford. Amherst, N.Y.: The Humanist Press, 1984. 268 pages. \$11.95 hardcover. \$7.95 softcover. ISBN 1-931779-01-4.

The major thesis of this book is that demographic growth in the world, global security, and American strategic interests are part of the same continuum. According to Mumford, the world now faces a "nightmare" of overpopulation, which is a threat to our national security; and the Vatican, a sovereign power, has done a great deal to weaken the efforts of American leadership to deal with this threat. The Vatican's resistance to population control is formidable, says Mumford, and only the U.S. government is powerful enough to survive the necessary confrontation with the church.

Mumford charges that the church assisted with the "influx of tens of millions of illegal aliens" into the U.S. to counteract the results of diminishing fertility rates of Catholic women (page 104). The book also asserts that "since the days of Margaret Sanger, the church has ordered members to infiltrate population organizations to collect intelligence and undermine them from within (page 115)."

Mumford makes many such charges in the course of his argument. The already convinced will find in this book "documentation" for the suspicions they already have. Others will react to the author's statements with skepticism and a call for a closer match of attention-getting charges and facts.

—Conrad Taeuber

THE GREAT AMERICAN MAN SHORTAGE AND OTHER BLOCKS TO ROMANCE, by William Novak. New York: Bantam, 1984. \$3.95 paper. (Originally published in hardback in 1983.)

While this self-help book primarily counsels both sexes how best to cope with romantic relationships, it also addresses at length the demographic dynamics of the real U.S. "man shortage," including the deficit of single men in various age

groups and the effects of the age differential at marriage (especially when the older cohort is smaller due to population dynamics—marry younger men, Novak suggests). The gay factor and geographic sex differentials are briefly described. And there's light at the end of the tunnel, at least for women born in the post-baby boom era, who should now be encountering a large reserve pool of eligible older men.

—Art Haupt

PUBLICATIONS RECEIVED

AIDING THE DESPLAZADOS: The Complexity of Humanitarian Assistance, by John Mullaney. Washington, D.C.: The U.S. Committee For Refugees, 1984. 31 pages.

CUBANS IN THE UNITED STATES: A Bibliography for Research in the Social and Behavioral Sciences, 1960-1983, compiled by Lyn MacCorkle. Westport, Conn.: Greenwood Press, 1984. 227 pages. \$35.00.

DEMOGRAPHY OF RACIAL AND ETHNIC MINORITIES IN THE UNITED STATES: An Annotated Bibliography with a Review Essay, by Jamshid A. Momeni. Westport, Conn.: Greenwood Press, 1984. 392 pages. \$35.00.

ENQUETE NATIONALE SUR LA FE — CONDITE ET LA PLANIFICATION FAMILIALE AU MAROC 1979-80 (Vols. I-IV), [Morocco WFS] by the Institut International de Statistique. Rabat: Ministère de la Santé Publique, 1984.

IMMIGRATION POLICY AND THE AMERICAN LABOR FORCE, by Vernon M. Briggs, Jr. Baltimore, Md.: Johns Hopkins University Press, 1985. 294 pages.

THE PEOPLE OF SOUTH ASIA: the Biological Anthropology of India, Pakistan, and Nepal, edited by John R. Lukacs. New York: Plenum Press, 1984. 465 pages. \$55.00.

POPULATION AND BIOLOGY: Bridge Between Disciplines. Proceedings of a Conference, edited by Nathan Keyfitz. Liege, Belgium: Ordina Editions. 300 pages. \$25.00.

RACE AND ETHNIC RELATIONS: American and Global Perspectives, by Martin N. Marger. Belmont, Calif.: Wadsworth. 336 pages.

WOMEN IN THE WORLD-SYSTEM: Its Impact on Status and Fertility, by Kathryn B. Ward. New York: Praeger. 1984. 192 pages. \$25.95.

WORLD HEALTH STATISTICS ANNUAL 1984. Geneva: World Health Organization, 1984. 385 pages.

SPOTLIGHT

AUSTRALIA

Population, 1984: 15,507,000
 Aboriginal population, 1984 (est.): 200,000
 Percent urban, 1984: 86
 Births per 1,000 pop. (1983): 15.8
 Deaths per 1,000 pop. (1983): 7.3
 Infant mortality rate (1982): 10.3 infant deaths per 1,000 live births
 Annual rate of population growth (1983): 1.1 percent
 Area: 2,967,909 sq. miles (slightly smaller than the continental U.S.)
 Major exports (1981): metal ores, meat, coal, wool, wheat
 Major imports (1981): machinery, motor vehicles, chemicals
 GNP per capita (1983): \$10,780

by Alice T. Day

Australia, the world's sixth largest country in land area, has a population roughly the same size as that of the state of Texas. With nearly as many square miles as the continental U.S. and a population 1/15th as large, Australia has a geographic and demographic situation unique among industrialized nations. An island continent with 22,800 miles of coastline, it is a large, low-density, developed "European" country in a region of high-density, predominantly agricultural Asian nations.

Australia is a latecomer to the community of developed nations. Distance, meager and capricious rainfall, infertile soils, and rocky, often inaccessible coast originally made Australia seem unpromising as a land to settle and develop. In 1770, when Captain Cook first anchored there, the continent was inhabited by some 300,000 Aborigines living in small, scattered bands, for which 200 distinct languages have been identified. Through the end of the 18th century and the first half of the 19th, Britain sent her convicts to Australia to relieve the overcrowded English jails, and to provide new ports for British ships in Asia and the Pacific. From 1820, nonconvict im-

migration contributed substantially to total population growth. And the population of the new colony increased rapidly, as the non-Aboriginal population tripled in each decade from 1810 to 1860.

Whereas new settlement increased the white population, it contributed to the decline of the Aboriginal population. Contact with Europeans appears to have been fatal. From 1788 to the 1930s, the Aboriginal population is estimated to have fallen by more than two-thirds, to less than 67,000. Since then, it has increased again. The 1976 census recorded an Aboriginal population of 160,915, about 1.2 percent of the national total.

The most sparsely populated of all the developed nations, Australia has always been highly urbanized (86 percent of the population are urban dwellers). The population became concentrated early in a handful of cities along the eastern seaboard. In the three decades following World War II, Australia's population grew rapidly as a result of both immigration (40 percent) and natural increase (60 percent). Three out of four of the immigrants settled in the two largest cities, Sydney and Melbourne, creating difficulties in supplying water, sewerage, and other municipal services. Numerous at-

tempts to develop the interior have failed, and the population remains distributed in a narrow band along the coastal fringe.

Problems associated with rapid population growth became a matter of public debate in the late 1960s and early 1970s. From 1974 on, restrictions placed on immigration and a decline in the birth rate slowed the annual growth rate and, by 1983, it had almost halved to 1.1 percent (from the 1971 high of 2.1 percent).

After the war, Australia pledged "to assist persons in a refugee situation or those suffering substantial discrimination" in other countries. By 1981, Asian refugees and other migrants from Asia had increased from a fraction of a percent to 3 percent of the total population. However, the bulk of immigrants still hail from Europe. American-born settlers remain very few at 33,700, and Canadian-born are even fewer at 18,250.

Australia has been called the "lucky country." Apart from a few economic setbacks, the country prospered from the end of World War II until the onset of the 1974 recession. The land that had appeared arid and unproductive to 18th-century seafarers was found to be rich in metal ores and a good environment for raising sheep, cattle and wheat.

Australia must, however, face new social and economic realities brought on by job shortages, unequal distribution of economic opportunity, family instability, aging population, and extensive, and perhaps irreparable, damage to the country's ancient and fragile ecosystems. All these problems make it clear that Australia, though isolated by distance, is having to come to terms with the same consequences of population change that in 1985 affect the rest of the industrialized world. □

Alice T. Day is the 1984-1985 Visiting Scholar at PRB, a position made possible by the Mellon Foundation. She was previously with the Aging and Family Project, the Australian National University.



This Vietnamese refugee is one of a growing number of Asian immigrants in Australia.

Australian Information Service photo by Eric Wadsworth

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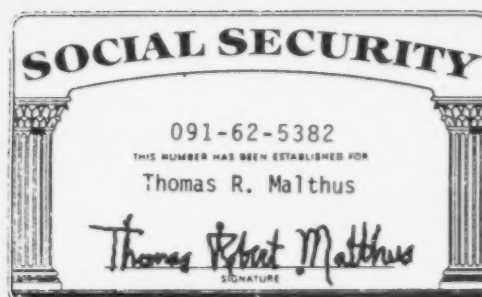
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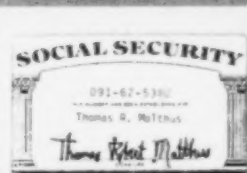
SPECIAL DEMOGRAPHER'S PAGE

Social Security and The Demographic Iceberg

by Robert J. Myers

Robert J. Myers has served as the Chief Actuary, Social Security Administration, 1947-1970; Deputy Commissioner, Social Security Administration, 1971-1982; and Executive Director, National Commissioner, National Commission on Social Security Reform, 1982-1983.

Remember the Social Security crisis of several years ago? At the time, actuarial cost estimates projected both short-term and long-term problems for the U.S.'s basic retirement income system, the Old-Age, Survivors, and Disability Insurance Program (OASDI).*



After a considerable amount of public debate, amendments to the U.S. Social Security Act were enacted in 1983 to take care of those problems, and leave the system on a sound footing for at least several decades to come. Nonetheless, widespread concern continues as to whether the problem was

truly solved, or (conversely) whether the system is now actually over-financed.

Measuring Financial Health

OASDI's short range financial status (i.e., over the next 5-10 years) is measured in the following way: The estimated balance of the combined Old-Age, Survivors, and Disability Insurance trust funds at the beginning of the year is expressed as a percentage of the outgo therefrom during the next 12 months. Obviously, this ratio must always be positive (and in practice, at least 8 percent) in order to assure prompt payment of benefits. Ideally, for there to be an adequate contingency "cushion," the ratio should be at least 50 percent.

At the beginning of 1985, this ratio was 24 percent (compared with 21 percent a year earlier). In recent years this ratio had been falling precipitously, but the 1983 amendments reversed the slide, and the ratio is projected to continue increasing in the near future, according to projections.¹ Thus, we can say that the short-range financial health of OASDI has been greatly improved and is very likely excellent.

The long-range financial status of the system is measured by a comparison over a 75-year period of the average annual OASDI income rate² (expressed as a percentage of taxable payroll) with the average outgo, or cost rate (also expressed as a percentage of taxable payroll). The cost rate is determined separately for each year, and the 75 values are then averaged; for the next 75 years, according to the intermediate-cost estimate, the cost rate is projected to be 13.0 percent of payroll.

Continued on page 6

*This paper will consider only OASDI, which is the part of Social Security that pays monthly cash benefits to retired and disabled workers and their spouses and children and to surviving spouses and children of deceased workers and retirees. The Hospital Insurance (HI) portion of Medicare, another part of Social Security, has a separate trust fund and its own set of financing problems, which are projected to endanger its solvency starting in about five to 10 years.

¹Including estimated receipts from the income taxation of benefits.

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'The Elusive Exodus' of U.S. Citizens: 100,000 Emigrate Each Year

The waves of immigration that have swept the United States during its history have been welcomed, decried, legislated, and regulated, but have always been the focus of public attention. Meanwhile, a smaller, but hardly insignificant tide of emigration has been quietly taking place; while it has been counted during some periods, for the most part emigration out of the U.S. has been ignored.

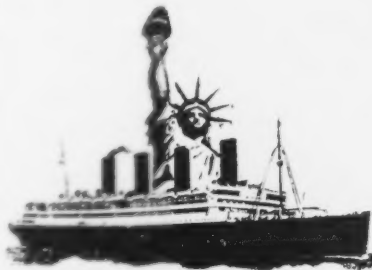
Piecing together data from a handful of different sources, demographers Robert Warren of the Immigration and Naturalization Service and Ellen Percy Kraly of Colgate University have assembled a statistical sketch of U.S. emigration for PRB's latest edition in the *Population Trends and Public Policy* series, "The Elusive Exodus: Emigration from the United States."

Their conclusions come as a surprise to many: Since the turn of the century the ratio of immigration to emigration has been 3-to-1. The 30 million legal immigrants the U.S. has admitted between 1900 and 1980 must be balanced against 10 million emigrants who left to settle elsewhere.

It is less than surprising that a number of former immigrants left disillusioned, or chose to retire in the "old country," or moved on to unexplored Canadian frontiers. More startling are the recent trends in U.S. citizen emigration that Warren and Kraly identified. Combining foreign immigration data, the authors found that the trend of U.S.-citizen emigration gained momentum during the 1960s and remained steady during the 1970s. Warren and Kraly report that more than 100,000 U.S. citizens are counted as immigrants to other countries each year.

Where are these U.S. citizens going? Only rough estimates exist, but it appears that more than one-third reside in neighboring Canada and Mexico. Another third are believed to live in Europe, mainly Italy, Germany and the United Kingdom. About one-sixth are concentrated in Asia, with the largest numbers in the Middle East, mainly Israel and Egypt.

Warren and Kraly stress that much



more information is needed on emigration. Since the INS discontinued collecting emigration data in 1957, estimates of emigration have been used and these estimates have been low. Currently, the Census Bureau estimates emigration at 40,000 a year. The Census Bureau's analysis of the 1980 census, however, used emigration figures of 160,000 per year for the decade of the 1970s.

To illustrate the magnitude of recent emigration trends, Warren and Kraly isolated the decade of the 1970s and compared the number of non-U.S. citizen emigrants (former U.S. immigrants leaving the United States who did not become naturalized citizens) to the number of undocumented immigrants counted in the 1980 census. In the Census Bureau's evaluation of the 1980 census these two flows were of roughly the same dimension—1.2 million non-U.S. citizen emigrants vs. 1.5 million undocumented immigrants. While the accuracy of both these figures has been questioned, the comparison suggests that emigration is a significant aspect of U.S. population dynamics—one that has been given too little attention to date.

Of what use would more detailed information on emigration be? Warren and Kraly suggest several applications, including:

Immigration policy. An understanding of emigration would allow the United States to institute yearly levels of immigration based on net rather than gross immigration. A "revolving door" policy could be set up whereby extra immigrants could be admitted for non-U.S. citizen emigrants who chose to leave.

Population estimates. Agencies of the state and federal government as well as private businesses rely heavily on population estimates in their planning and budgeting. Data on emigration would enhance the accuracy of national population estimates.

To find out the hows, whys, whos, and wheres of U.S. emigration in an efficient and cost-effective manner, Warren and Kraly suggest adding questions on emigration to existing population surveys.

Finally, say Warren and Kraly, more information on emigration has the potential to turn upside down common thought on the topic of international migration. "The facts appear to contradict the notion that everyone wants to come to the United States and no one wants to leave," they say. □

"The Elusive Exodus: Emigration from the United States," a PRB *Population Trends and Public Policy* paper, 16 pages, can be ordered for \$3.00 ea. (2-10 copies, \$2.30 ea.; 11-50 copies, \$1.90 ea.; 51 or more, \$1.50.) Handling charges: Inside the U.S., add \$1.00 for each order; outside the U.S. add 25 percent to the cost of the order. Orders of \$20.00 and under must be prepaid. Send order and remittance to Circulation Dept., PRB, P.O. Box 35012, Washington, D.C. 20013. Checks payable to PRB.

Immigration Reform: Up from the Ashes?

Legislative action on immigration reform is expected to proceed slowly during early 1985. President Reagan, in his State of the Union address Feb. 6, conspicuously made no mention of immigration, a signal that the Administration is playing it safe on this sensitive political issue and has not staked out a clear policy position. Without strong presidential support, some observers feel that any new immigration initiative will remain bogged down in the congressional process.

Sen. Alan Simpson, (R-Wyo.) and Rep. Romano Mazzoli, (D-Ky.), sponsors of last session's immigration reform package that passed both houses but never got out of conference committee, are expected to offer some sort of immigration reform bill once again.

Continued next page

FROM THE EDITOR'S DESK

Demography or demographics: that is the question.

The standard definition of demography is usually something like "the statistical study of human populations"; while demographics, according to Webster's Ninth New Collegiate Dictionary, is "the statistical characteristics of human populations... used especially to identify markets." (Our italics.)

But demography is also used to refer to "statistical characteristics"—*The Demography of the Dobe/Kung* (1979) by Nancy Howell, to cite one example. So the difference between demography and demographics may come down to atmosphere (or atmospherics). You would never hear a network executive talk about "the demography of *Magnum* PTs audience," after all.

So from here on out—let demography refer to statistical characteristics when discussed in an academic or research setting, and let demographics refer to statistical characteristics when discussed in a commercial, advertising, or consultancy setting.

By the way—Kathy Doherty of Merriam-Webster, Inc., has kindly informed us that the first recorded use of demography appearing in M-W's authoritative citation files was in the *Library of Universal Knowledge* (1880). By contrast (and this should tell you something), their first record of the term demographics comes from *One Hundred Basic Media Terms* (1966), published by the redoubtable New York ad agency Batien, Barton, Dumaine, & Osborn (BBD&O).

—Art Haupt

Immigration Reform

Continued from preceding page

The thrust of the new bill is still unclear.

Rep. Edward Roybal (D-Calif.), author of the alternative immigration bill put forward by the Hispanic caucus last session, introduced a new bill, HR 30, early in January. Unlike his last bill, HR 30 contains sanctions against employers who knowingly hire undocumented workers. Recordkeeping would be re-

quired of only those employers who have shown a pattern of hiring undocumented workers, and the bill prohibits a national ID card system. It would grant amnesty to workers who have been in the United States since Jan. 1, 1982. The bill would set up mechanisms to offer legal recourse to individual workers who believe they have been harmed by the hiring of undocumented workers and mechanisms to protect the civil rights of all U.S. residents against employment-related discrimination based on national origin or citizenship status.

Supporters of strict immigration controls find the employer sanctions in the Roybal bill "weak and unverifiable." They acknowledge, however, that the bill is a step toward a simplified compromise proposal. □

SURVEY REPORT

Nigeria WFS

Nigeria, Africa's most populous nation with an estimated 90 million people, has made available the results of its World Fertility Survey taken in 1981-1982. The survey reveals a rather high level of fertility, and even higher average number of desired children.

The country's total fertility rate (TFR) was 6.34 children for all women on average, and 7.48 for ever-married women. The average num-

ber of children desired was about 8.3. Women who had had 9 or more children were interested in having a total of 13 children, whereas women with no children expressed a desire for 7.4 children, eventually.

Contraceptive use in Nigeria is negligible. 84.9 percent of women interviewed had never used any type of contraception, though 33.6 percent had heard of one method of contraception or another. Abstinence tops the list of specific methods used; 12.1 percent of the women have used it and 19.4 percent have heard of it. The pill, with 1.8 percent of the women reporting they had used it and 13.4 percent having heard of it, runs a distant second to abstinence. Not surprisingly, educated and urban women are more likely to have heard of and used contraceptive methods.

The disparity between the number of children desired and the average number of children women are having, coupled with the low contraceptive prevalence, suggests that noncontraceptive factors affect fertility. These include abstinence from intercourse following a birth, extensive breastfeeding, postpartum amenorrhoea, and marital instability. In terms of fecundity, the potential to have children, 80.3 percent of the women interviewed considered themselves fecund.

By the age of 34, 99.0 percent of Nigerian women interviewed had been married. Age at first marriage, an important factor in fertility levels, is low in Nigeria, where 51.8 percent of ever-married women interviewed had been married by their 16th birthday. □



Nigerian girl drinks at public fountain.

AID Funding of UNFPA Uncertain

Some \$23 million in UN population assistance has been postponed by the U.S. Agency for International Development, pending a "careful review" of concerns about possible coerciveness in China's population program. The review is expected to take several weeks.

Continued on next page

Continued from preceding page

The aid is earmarked for the UN Fund for Population Activities and represents the U.S.'s 1985 aid to the UN agency. UNFPA in turn gives population aid to many countries, including China, though the agency takes pains to point out that none aid goes to coercive family planning or abortion.

The U.S.'s fresh concern was reportedly sparked at least in part by the recent *Washington Post* series on China's one-child family program. Population people appear unfazed, at least so far, by the U.S. Government's action, in anticipation of the funds eventually being unfrozen. But the incident, follow-

ing the denial of funds to the International Planned Parenthood Federation, sends a signal that the U.S. is continuing to use overseas funding as a means of expressing its opinion about abortion and other population-policy issues. □

Canada Count Off On

The slim ranks of countries which take censuses every five years almost became thinner with Finance Minister Michael Wilson's announcement that the 1986 Census of Canada would be a casualty of fiscal austerity. However, the \$100

million quinquennial count is back on track again. The census will provide detailed data on Canada's minority, handicapped, and native populations for the first time.

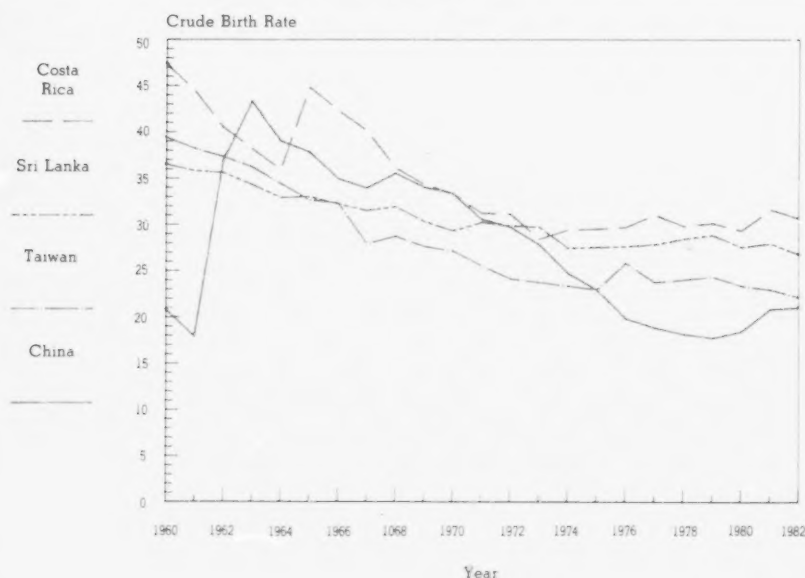
Proponents of the census point out that, lacking a national count, many provinces would still need the data for planning purposes and take their own. This could have led to potentially greater census-taking expense and result in a quagmire of noncomparable data. The *Toronto Star* pointed out that the U.S. takes a census only every 10 years, and as a partial result "lost" some 5 million people, who were then "found" during the U.S. 1980 census. (A five-year census planned for the U.S. in 1985 died in a budget cut long ago.)

The sudden reinstatement of the census has caught Canada's census-taking agency, Statistics Canada, short of employees, as many were transferred following the original cancellation. But the entire incident illustrates a current irony: Censuses have fallen on hard times in a number of industrialized countries (delayed in West Germany, canceled in the Netherlands) at the very time many less developed countries are increasing their census- and statistics-gathering activities. □

SPEAKING GRAPHICALLY

CRUDE BIRTH RATES: SELECTED COUNTRIES

1960-1982



The concept of the "fertility decline slowdown" is one which is getting increasing attention in population circles. Quite a few countries which have had remarkable fertility declines throughout the early stages of their population programs now evidence distinct slowdowns in that decline. The crude birth rates of the four countries above give a definite impression of relatively stationary fertility after a period of decrease. Is this a temporary phenomenon? Or does it signal a very long and protracted decline to the two-child family? Only time will tell.

CORRECTION

Editing errors were the cause for two misstatements that appeared in the translation of "Quebec: The Empty Cradle," by Andre Lux, which was published in the December 1984 *PT*.

Quebec Province has a double school system (French and English), not an exclusively French one; the 1982 referendum was a vote whether to negotiate secession with the federal government and was defeated by a 60-percent-to-40-percent margin, not "narrowly." *PT* regrets the errors. □

Demographer's Page

Continued from page 1

structure, (a little less certainly) the future mortality, and also (to some extent) future fertility and net immigration.

The Demographic Iceberg

It is widely known that the U.S. population is aging. Many people believe that the result of this aging trend will be a steadily increasing ratio of those aged 65 and over to those aged 20-64. And it is assumed that the Social Security system is on a collision course with this "demographic iceberg."

But such an increase will not occur for a while. This ratio is currently 20.2 percent. During the next 25 years it will rise slowly, reaching 22.9 percent in 2010, according to the cost projections underlying the OASDI program.² This is a very small rise.

In the 25 years following that, however, the ratio will increase markedly as the baby boom generation reaches retirement age—to 39.5 percent in 2035. Thereafter, the ratio is projected to remain relatively constant. So the ultimate level of the ratio will be almost double the current one—hence the alarm about OASDI.

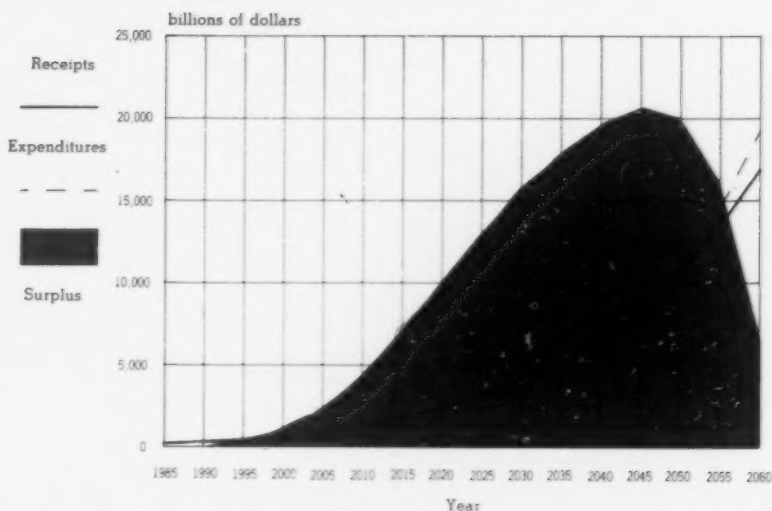
Under the 1983 Social Security amendments, the Normal Retirement Age* under OASDI was increased from 65 to 67 years, on a deferred, gradual basis. This new retirement age will become effective in 2027, for those who reach 67 in that year. The ultimate ratio of those aged 67 and over to those aged 20-66 is projected to be 34.5 percent—still high, but lower than if the Normal Retirement Age had not been raised.

The Cost Picture

Because of these demographic trends, the ratio of workers to beneficiaries under OASDI will decline precipitously over the next 50 years, a change that has garnered considerable publicity. According to the intermediate-cost estimate (Alternative II-B) in the 1984 Trustees Report,³ this ratio will drop from the present 3.4 workers for every beneficiary, to 2.0 in

*The age at which unreduced benefits are first available.

SOCIAL SECURITY TRUST FUND



Source: Intermediate-cost estimate Alternative II-B, 1984 Trustees Report.

2035 and after (Once again, in the next 25 years the decline will be only slight—the ratio for 2010 being 3.1. This decline will be most rapid after 2010.)

The foregoing ratios are somewhat deceptive, because active workers are compared with total beneficiaries, including auxiliary and survivor beneficiaries. A more meaningful ratio is the comparison of active workers with retired and disabled workers. On this basis, the ratio is 5.0 active workers to one retired and disabled workers currently and 2.2 ultimately.

The "burden" of OASDI on the working population is perhaps best considered by viewing the outgo as a percentage of taxable payroll assuming the provisions of the law remain unchanged. According to the intermediate-cost estimate,⁴ the outgo percentage is 11.15 percent in 1985, with 15.45 percent projected in 2060—a relative increase of somewhat over one-third.

Once again, the increase will not be steady. Rather, for the next 20 years, the outgo percentage will actually decrease, to a minimum of 9.94 percent of taxable payroll. But following 2005, a steady and spectacular increase will occur, until by 2035 outgo reaches an ultimate level of about 15¼ percent.

The Coming (Temporary) Surplus

Contrary to popular belief, OASDI

is not financed on a current-cost, or pay-as-you-go, basis (under which income and outgo are roughly in balance each year, and only a relatively small contingency fund is maintained). True, such a situation has existed in practice during the last 20 years, on a de facto basis. But it will not be the case after the 1980s if present law remains as it was in 1983 and if the intermediate-cost estimate comes to pass.

The reason is that the 1983 amendments called for the tax rate applicable to OASDI to increase sharply in 1988 and 1990, and be level thereafter.* During the period 1990-2020, the tax rate schedule will be well above the curve of the cost rates; after 2020 it will drop below it. (Under a true current-cost basis, the schedule would follow the curve of the cost rates.)

Thus, the theory for financing OASDI is to build up a large fund in 2010-2020 (which will be as much as five times annual benefit outgo) and then liquidate it to meet the excess of outgo over income in subsequent years. The result will be that the fund becomes exhausted at the end of the 75-year valuation period. Subsequently, the tax rate will be inadequate to meet the outgo unless, for the employ-

*The combined employer-employee tax rate for 1985-1987 is 11.4 percent. It increases to 12.12 percent for 1988-1989 and to 12.4 percent for 1990 and after.

er and employee combined, it is increased by slightly more than 2 percent of payroll.

(See the graph on page 6, which is based upon the Alternative II-B estimate, and which shows the OASDI fund peaking at \$20.7 trillion around 2045.)

A Possible Solution

In summary: OASDI's financing problem is that large trust fund balances, conceivably absorbing a significant proportion of the economy's entire money supply, will be accumulated in the 1990s and the following two decades if experience follows the intermediate-cost projections.

No major structural changes should be made in OASDI for the next few years, especially as to its financing basis, until more financial experience has occurred. It now appears quite certain that the program will be adequately financed during the 1980s, and the OASDI Trust Funds will be able to repay the loan from the HI Trust Fund which was needed in 1982* and build up an adequate contingency reserve.

Tax rates in the 1990s and early 2000s, however, are apparently too high and will result in the build-up of too large a fund. This build-up should be prevented by an automatic-adjustment procedure that will lower the tax rates when the fund balance exceeds 50-60 percent of annual outgo—and which will increase the tax rates when the fund balance falls somewhere under this range.

References

1. U.S. Congress, 1984 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds. (House Document 98-200) April 5, 1984. p. 73.
2. Social Security Administration, Social Security Area Population Projections, 1984. (Actuarial Study No. 92) May 1984.
3. U.S. Congress, op. cit., p. 73.
4. Ibid., p. 72.

*Such loan was \$12.4 billion. In January 1985, \$1.8 billion was repaid, and the remainder is expected to be repaid with the next two years (with appropriate interest).

30 Million May Have Died In China's 1958-1961 Famine

A demographic catastrophe of very dramatic proportions—perhaps the most serious human disaster in history—occurred in China during 1958-1962, according to newly released data. Prior to 1981, few demographic data about China were available, but since then such data have been flowing out of China. These data provide a basis for constructing heretofore incalculable estimates for the entire period back to the establishment of the People's Republic. According to "Famine in China, 1958-61" an article in the December 1984 *Population and Development Review*, vol. 10, no. 4 by Basil Ashton, Kenneth Hill, Alan Piazza, and Robin Zeitz, that widespread famine was the cause of the demographic disaster.

Vital Rates for China 1955-1964

Year	Year-end population (millions)	Birth rate	Death rate
1955	614.7	32.6	12.3
1956	628.3	31.9	11.4
1957	646.5	34.0	10.8
1958	659.9	29.2	12.0
1959	672.1	24.8	14.6
1960	662.1	20.9	25.4
1961	658.6	18.0	14.2
1962	672.9	37.0	10.0
1963	691.7	43.4	10.0
1964	705.0	39.1	11.5

Source: Basil Ashton et al., "Famine in China 1958-61." *Population and Development Review*, December 1984.

China has lived in the shadow of famines for centuries. Until the famine of 1958-1961, the worst one in human history occurred in China in 1876-1879. That one, the result of drought, is estimated to have caused between 9.5 and 13 million deaths. The more recent famine, by contrast, appears to have been the result not of drought but of a massive food shortage, a result of a drastic and prolonged decline in grain output. In 1960, for example, per capita availability of food energy in China was 1,500 calories a day (lower, even, than today's Ethiopia, where an estimated 1,735 calories are available per day).

Not only did an estimated 30 million premature deaths occur in China during 1958-1962 (approximately 17.3 million over age 10 and 12.2 million under age 10), but fertility rates were

significantly affected as well. The number of births during those years was about 33 million short of the number that would have been expected, based on fertility and mortality trends for more normal years. [For a graphic example of these birth trends, see *Speaking Graphically*, p. 5 this issue and in the March 1984 *PT*.]

In late 1959, China's leaders recognized the severity of the food crisis, and in 1960, they began taking steps to alleviate it. Not until 1961 did the famine receive any recognition from the outside world. Indeed, its magnitude was virtually unknown until recently. There were no drives for famine relief from international organizations or governments. No international effort whatsoever was attempted, for China's leaders did what they could to keep their country's misery a secret.

The causes of the 1958-1961 famine? Poor agricultural policy was a major factor in the creation of the famine. The People's Communes of the Great Leap Forward reduced farmer's incentives for production and complicated administrative tasks, resulting in reduced agricultural production. Statistics hailing the record food crop of 1958 were exaggerated so that planning for the 1959 crops was based on poor information. In addition, the government's urbanization policy resulted in rapid urban migration and contributed to disarray in China, leading to food procurement problems.

Numerous Chinese reports of natural calamities indicate that severe crop damage in 1959 and 1960 added to the intensity of the agricultural crisis. Nevertheless, China did not begin major grain imports until 1961.

Now that data are available and experts can reconstruct the calamity of those years, it seems incredible that a disaster of such scale went unnoticed by the rest of the world. Ashton et al. conclude that "the tragedy of this famine is that internal food redistribution was obviously limited and major international relief was never attempted. It would not be inaccurate to say that 30 million people died prematurely as a result of errors of internal policies and flawed international relations." □

Population, Environment in Conflict; Worldwatch Cites Problems

The interaction between population and the environment is becoming increasingly destructive as the pressures of the human race on the world's natural support systems are now capable of causing serious continental and even global changes, according to *State of the World 1985*, the second annual survey by the Worldwatch Institute about the interrelationships between humans and the earth's natural systems.

Famine-stricken Africa is a tragic example of man versus nature, according to Worldwatch president, Lester R. Brown, who states that "as recently as 1970, Africa was essentially self-sufficient in food." Brown claims that the food crisis is the result of exceedingly rapid population growth, widespread soil erosion, and the neglect of agriculture by African governments.

The Worldwatch study, researched and written by Brown and his staff, found no developments in prospect on either the agricultural or family planning side of the food/population equation that will arrest Africa's slide in per capita food production. Brown warned that unless steps are taken to boost agriculture and slow population growth, the crisis in Africa will continue to deepen.

Brown sees far-reaching effects of rapid population growth which do not usually pop to mind: reduced rainfall, for example. In some regions of the world (most notably Africa) the demands of a growing population have led to deforestation or overgrazing, thus reducing vegetation. "As vegetation is reduced... the share of rainfall running off directly to the ocean increases. Less rainfall evaporates into the atmosphere to recharge rain clouds that move inland," Brown says. Less rainfall is a prospect of potentially disastrous proportions.

But Worldwatch's news isn't all bad. China's food situation contrasts dramatically with that of Africa. The report found "broad gains on the food front" for China, whose per capita grain production has risen 30

percent since 1970. The report attributes the nation's success to its halving of population growth rates since 1970 and to the launching of extensive agricultural reforms. With these gains, the report notes, China could endure two consecutive poor harvests without experiencing widespread hunger or malnutrition.

The industrial countries are affecting natural systems as well, the report found, with acid rain and pollution greatly contributing to the loss of forests in central Europe. In addition, increasing levels of carbon dioxide and other "greenhouse gases" released to the atmosphere are likely to cause climatic shifts that could disrupt food production, reduce dependable water supplies, and eventually jeopardize coastal cities and towns.

The report places some emphasis on energy. It notes that new innovations in renewable energy, as well as conservation measures, are imperative for the sake of future energy consumers. This is, however, one area where some progress has been made.

Brown calls for a thorough overhauling of agricultural, energy, and population policies, aimed at managing resources on a sustainable basis. He predicts that many Third World countries will be forced to adopt one-child family policies much like those of China, as a result of dwindling forests, eroding soils, and falling water tables. Essential to this overhaul, according to Brown, is "a realization that our security and future well-being may be threatened less by the conflicts among nations than they are by the deteriorating relationship between ourselves, soon to be five billion, and the natural systems and resources that sustain us." □

Copies of *State of the World 1985*, by Lester R. Brown and William U. Chandler, Christopher Flavin, Cynthia Pollock, Sandra Postel, Linda Starke, and Edward C. Wolf are available from PRB at a special price of \$6.00 for PRB members. The cost to non-members is \$8.95. Orders and checks (made payable to PRB) should be sent to: PRB, Circulation Dept., P.O. Box 35012, Washington, D.C., 20013.

New PRB Kit Available to Teachers

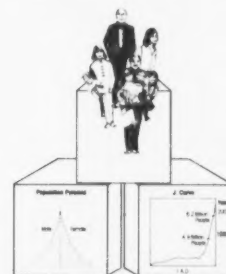
PRB has just released a new teaching kit, "An Introduction to Population Dynamics." The kit contains the *World Population: Fundamentals of Growth* student chart-book and six wall charts illustrating the components of population growth and change, a teacher's guide with student study questions, and the *World Population Data Sheet*.

In other words, the kit contains everything a high school or college teacher would need for a short lesson on population dynamics or for supplementary materials in a longer unit. It is designed to help teachers help their students understand population concepts, build important skills, analyze population trends, and increase their vocabulary.

"An Introduction to Population Dynamics" costs \$17.50, but a special introductory discount of 20 percent is available to PRB members and *Population Today* readers who order kits before April 1. Send check for \$14.00 per kit with a \$1.00 shipping/handling charge if your order is less than \$20.00 to PRB, P.O. Box 35012, Washington, D.C. 20013. Don't forget to indicate that you're a *PT* reader to receive the discount. □

An Introduction To:

POPULATION Dynamics



THE POPULATION REFERENCE BUREAU TEACHING KIT

WORLD FOOD NEWS

The fight against famine now gripping much of the African continent is being aided by a little-known worldwide intelligence system operated by FAO.

From FAO's Rome headquarters, the Global Information and Early Warning System on Food and Agriculture monitors the status of African food cereals by analyzing production, utilization, stocks, and commercial imports. Analyzing this information, the FAO is able to estimate how much food aid each country will need until its next main harvest comes in. (The System now lists 21 African nations as facing exceptional food supply problems for 1984-1985.)

About 100 nations now participate in the Early Warning System. It was created after the 1974 World Food Conference cited the need for a continuous flow of up-to-date information on prospects for the basic world food supply to inform the U.S. and other food donor countries and operational relief agencies. The U.S. supplies about 60 percent of world food donations on average. □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

Population and Development Under Scrutiny

Population growth affects development, but how? In January 1985, the UN Fund for Population Activities sponsored an expert group meeting on population and development planning.

Representatives of some 10 countries and UN experts met at UN headquarters in New York. They were following up on an earlier seminar (held in September 1983) that had laid out the problem: How to incorporate population considerations into economic and social development.

The results of the January meeting, according to observers, were variable. The reports differed widely in approach and content, with some countries detailing the effects of their population programs, while others frankly admitted that population consciousness in both the public at large and economic planners in particular was very low. One conclusion: Economic planners should be trained in population dynamics at the earliest possible stage.

A detailed account of the meeting—the report of UNFPA Expert Group Meeting on Population and Development Planning—is expected in the Spring of 1985. □

Surprise Soviet 'Census' Conducted

The USSR has taken a major demographic survey during January 1985, according to the *New York Times*. Although the demographic situation has generally not been given much public attention, recent trends appear to be causing some official concern.

One concern is that the lower birth rate of ethnic Russians compared to Asian and Moslem minorities will soon cause Russians and other Slavic peoples to account for less than half of the total population. In that connection, the survey questioned 5 percent of the Soviet population on the number of children planned, age at marriage, and reasons for divorce. Another apparent purpose of the survey was to identify who might be usefully employed in the light of increasing labor force shortages. This issue is also affected by the fact that increasing proportions of labor force entrants and draft-age cohorts are not Russian-speaking. □

Population Update

Estimated United States Population:

As of October 1, 1984	237,267,000
As of October 1, 1983	235,122,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 961.

Estimated World Population:

As of March 1985	4,817,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1984 population given on the 1984 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: October 1984

Item	12 months ending with October					
	Number		Rate			
	1984	1983	1984	1983	1982	1981
Live births	3,663,000	3,658,000	15.5	15.7	15.9	15.9
Deaths	2,033,000	2,008,000	8.6	8.6	8.6	8.7
Natural increase	1,630,000	1,650,000	6.9	7.1	7.3	7.2
Marriages	2,473,000	2,442,000	10.5	10.5	10.8	10.6
Divorces	1,160,000	1,182,000	4.9	5.1	5.1	5.3
Infant deaths	38,600	40,100	10.5	11.0	11.4	11.8
Population base (in millions)			235.8	233.4	231.1	228.9

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source: *Monthly Vital Statistics Report* (Vol. 33, No. 10) from the National Center for Health Statistics.

LETTER TO THE EDITOR

In reference to the article "O Little Town of Noel" in the December 1984 *Population Today*, there is a town called Santa Claus in southern Indiana. I do not know what its status is with respect to incorporation, but when I visited there about 20 years ago, it was probably somewhat larger than Christmas, Mich.

Sincerely,
Richard D. Wright
Professor and Head,
Dept. of Sociology,
Northern Michigan
University

POSITIONS/ PROFESSIONALS

Assistant Director, Association for Voluntary Sterilization, Inc., to serve in International Programs—Asia Regional Office (Dhaka, Bangladesh) and be responsible for grants and technical assistant programs in the region. Qualifications: graduate degree and 5 years minimum relevant experience. Salary: \$28,174-\$32,543. Contact: Marilyn Riedlinger, Personnel Officer, AVS, 122 East 42nd St., New York, N.Y. 10168.

Overseas Internship Positions (limited in number) are being offered by the Center for Population and Family Health of Columbia University. The two-year Internships are designed for entry-level and mid-career health professionals seeking experience in international health and family planning. Qualifications: Masters in public health or equivalent. Salary: moderate, with travel expenses. Contact: Dr. D. Lauro, the Center for Population and Family Health, Columbia University, 60 Haven Ave., B-3, New York, N.Y. 10032. (Columbia University is an equal opportunity employer.)

TAKE A NUMBER...

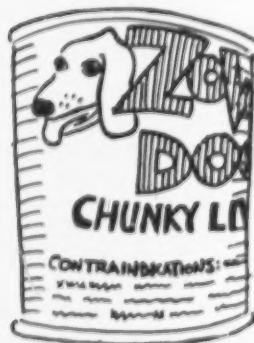
Metro Muddle: Not really a muddle, but some have expressed stupefaction at the new method of classifying metropolitan areas in U.S. The Office of Management and Budget rethought just who's metropolitan and who isn't so that metro areas would more reasonably represent new geographic patterns of residence. In a future issue, *PT* will offer a simplified explanation of the new areas—gone are the familiar SMSAs, replaced by MSAs, PMSAs, and CMSAs. While probably not as traumatic as the breakup of AT&T, the new definitions are imposing at first glance. The Census Bureau has helped recently in one way, by reworking 1980 Census counts and publishing them in *1980 Census, Metropolitan Statistical Areas, Supplementary Report, PC80-S1-18*. This useful update lists the MSAs from Abilene to Yuba City and gives data from the "short form" in the 1980 Census on population, housing units, race and Spanish origin, vacancy rates, and persons per household. A subsequent report will give "sample" data on a wide range of social and economic characteristics.

70 Million: That's the population number targeted by a government committee in Malaysia in connection with the country's recent about-face on the policy on population growth. The government now wishes to encourage growth from the present 15 million to an ultimate population of 70 million. There are plans to review tax and maternity leave provisions which discourage large families and to adopt policies which would generally raise fertility.

In 1980, women in Peninsular Malaysia averaged about 4 children each, but the national measure would probably be somewhat higher if good data were also available for Sabah and Sarawak. The 70 million target is a little more than twice as high as the most recent World Bank projection of ultimate population size for Malaysia, 33 million, a projection which assumes that the country would reach the two-child family by 2005-2010.

Here and There... The 1983 Census of Israel counted 4,037,620 population, 3,349,997 of whom were Jews... from the just-available 1983 Contraceptive Prevalence Survey of Bangladesh: 13.8 percent of married women were using a modern family planning method with tubectomy accounting for nearly half; an additional 5.4 percent were using a traditional method such as abstinence or rhythm... the fertility of women in the Maldives has been measured in a recent survey, which portrays high fertility in the islands. Women 25-29 had 5.1 children on average and those 40-44, 7.0; of the latter, only 4.4 children were actually surviving at the time of the interview and the women gave 3.2 as their "preferred" number of offspring... rising unemployment is said to be a major cause of the decline in the birth rate in Finland. The Finnish IPPF affiliate said that the country's population may drop from the present 4.8 million to 3.5 million by 2050... also in Finland, the 1982 reported infant mortality rate of 6.0 infant deaths per 1,000 live births gives that country the world's lowest rate, with Japan in second place with 6.2, and Sweden third with 6.8. Where does the U.S. stand? 15th in 1982...

...addenda



Contraceptive dog food, containing the hormone mibolerone, will be marketed sometime in 1985. According to the maker, Carnation, the food works on female dogs by preventing estrus, without adversely affecting male dogs who happen to scarf it down. It will be sold in cans under the brand name Extra Care in at least three flavors... (News item)

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

DISEASE AND FERTILITY, by Joseph A. McFalls, Jr., and Marguerite Harvey McFalls. New York: Academic Press, 1984. 593 pages. \$69.50. ISBN 0-12-483380-2.

Though subfecundity—the reduced capacity to produce a live birth—is a “major determinant of individual and population fertility,” population students have focused more on its measurement than its causes. This book is the third product of Temple University demographer Joseph McFalls’s monumental and valuable research undertaken to remedy this situation. Following up on McFalls’s 1979 *Population Bulletin* “Frustrated Fertility” and a monograph on *Psychopathology and Subfecundity*, the McFalls book deals with disease as “by far the most devastating” of the five factors capable of depressing fecundity (the others being genetics, psychopathology, nutrition, and the environment.)

The authors describe in exhaustive yet readable detail all aspects of the major diseases capable of causing problems with intercourse and conception and pregnancy loss. These include nonsexually transmitted diseases such as genital tuberculosis, malaria, and schistosomiasis that are rampant in the developing world, especially Africa; sexually transmitted diseases, many of which like herpes, gonorrhea, and chlamydia are now epidemic in the U.S.; and factors such as the IUD that can cause pelvic inflammatory disease. The result is a fascinating and important resource for all concerned with human fertility.

—Jean van der Tak

IMMIGRATION POLICY AND THE AMERICAN LABOR FORCE, by Vernon M. Briggs, Jr. Baltimore: Johns Hopkins Univ. Press, 1984. 294 pages. \$26.50. ISBN 0-8018-3168-7

Rarely does a book’s title suggest that the coverage is less than it actually is. Such is the case with Briggs’s excellent book.

Immigration Policy is not an economic treatise dealing solely with the arguments pro and con as to the effects of immigration on the labor force of the U.S. It deals with this controversial is-

sue in some depth, but considers most other immigration topics as well.

Immigration policy is traced back to the founding fathers, culminating with the current, chaotic situation in this country. The history of the immigration movement to the U.S. is also discussed in some depth.

The 19th and 20th century Mexican situation and its relationship with the United States is admirably told. Whenever possible, policy comparisons are made with other receiving countries. Entire chapters deal with such contemporary issues as illegal immigration and refugees. The final chapter concentrates on the current situation and here Briggs makes some important and relevant suggestions for the necessary development of a U.S. policy.

Throughout the text Briggs is concerned with the impact that immigration has on the economy. His concluding words are worthy of repetition: “In sum, U.S. immigration policy needs to be synchronized with all other policies that are designed to accomplish full employment, strengthen the domestic economy, and enhance the development of the nation’s human resources. A liberal and non-discriminatory immigration policy should continue to be a hallmark of American society, but that policy must truly contribute to —not contravene—the nation’s economic interest.”

For anyone interested not only in the economic dimensions of this issue but in the history of U.S. immigration and immigration policy, this is a must book. Well written, concise, and easily understandable.

—Leon F. Bouvier

THE POPULATION BOMB: A Matter of Human Beings, by the staff of the Omaha World-Herald (address: World-Herald Square, Omaha, Neb. 68102). A 28-page reprint of the World-Herald’s 8-part series published Sept. 23-30, 1984. 50¢ ea. postpaid (bulk rates on request).

This special publication from the Omaha World-Herald covers a wide spectrum of world population-growth issues, including urbanization, child abandonment, migration, food, policy issues, and family planning. To prepare it, three of the paper’s staff fanned out over Latin America (the region is emphasized in the series), and the result is a collection of fresh and up-to-date data, quotations, vignettes, and analyses. The series calls the population explosion “one of the most significant and under-reported stories of our time,” and the World-Herald can be proud of its

achievement in making that story better known and understood.

—Arthur Haupt

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AMERICA’S NEW IMMIGRATION LAW: Origins, Rationales, and Potential Consequences, edited by Wayne Cornelius and Ricardo Anzaldúa Montoya. LaJolla, Calif.: Center for U.S.-Mexican Studies, Univ. of Calif., San Diego, 1983. 182 pages.

CHANGES IN THE LIFESTYLES OF NEW PARENTS, by Gus W. Haggstrom, Linda J. Waite, et al. Santa Monica, Calif.: Rand Corporation, 1984. 191 pages.

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WOMEN IN THIRD WORLD DEVELOPMENT, by Sue Ellen M. Charlton. Boulder, Co.: Westview Press, 1984. 240 pages. \$30.00 hardcover; \$11.95 paper.

SPOTLIGHT

NEVADA

Population, 1984 (est.): 944,615
Births per 1,000 pop. (1981): 16.7
Deaths per 1,000 pop. (1981): 7.0
Land area: 110,600 sq. miles
Percent of population aged 65 and over (1983): 9.1
Percent of population aged 18 and under (1983): 25.7
Population rank (1983/1960): 43/49
Percent born in Nevada now residing there (1980): 21

The bright lights of Las Vegas dominate the popular impression of Nevada, but there is far more to the "Silver State," nicknamed after the Comstock Lode which encouraged settlers to come in droves to the state. Nevada is the seventh largest state in area, ranking 43rd in population. Native Americans, East Asians, and Basque sheepherders constitute Nevada's principal ethnic groups. About 6.4 percent of Nevada's total population is black, of which 92 percent live in Clark County/Las Vegas, while the rest are scattered sparsely.

Nevada's population and economic activity are concentrated in Las Vegas (Clark County), Reno-Sparks (Washoe County), and Douglas County/Carson City. In July 1983, 58.3 percent of the state's total population lived in Clark County, and 23.2 percent in Washoe. Jobs in Clark County accounted for 56.0 percent of all employment in Nevada; jobs in Reno-Sparks, 27.7 percent.

The state population, estimated at 944,615 in 1984, is expected to grow at a rate of 4.2 percent per year from 1985 to 1990. The population of Douglas County/Carson City is expected to increase by a hefty 5.3 percent. Despite some concern about the environment, current political structure supports population and economic growth. Nevada grew by 63 percent from 1970 to 1980, and the U.S. Bureau of the Census projects the state will maintain the highest growth rate of any state during the next 20 years. During the 1970s, high nation-

al unemployment, if anything, stimulated migration to Nevada.

Nevada's political system is highly conservative. The main public issue is the degree to which government can minimize its role in the state economy. Nevada's tax haven characteristics (no personal or corporate income tax) have attracted wealthy individuals and high-tech corporations to the state.

There are many attractive retirement locations in Nevada; like other Sun Belt states, Nevada receives immigrants as a result of the aging of the U.S. population. In addition, the state has untapped mineral and geothermal resources that could spur very rapid growth in certain areas.

Nevada has the least diversified state economy in the country. Gaming and tourist-related services form the base for economic activity, with mining and agriculture dominating some rural areas. Gaming is the single most important source of tax revenues. The reliance of gaming on computerized credit records was in part responsible for Nevada's being the 23rd state to pass a computer-related act. Nevada's act provides protection from computer piracy and unauthorized access to records. This act was an important step in encouraging high-tech industry to settle in northern Nevada. Service and recreation-related jobs account for 40 percent of employ-

ment, compared to 20 percent for the U.S. as a whole.

Nevada's market share of gaming is decreasing because of competition from Atlantic City and fewer restrictions on gambling throughout the U.S. As the gaming industry matures, it is experiencing slower growth; the gaming sector as an employer has in large part been responsible for the forecasts of rapid population growth and these forecasts must be adjusted downward to account for the slower rise in gaming.

Income per capita is \$11,981 annually, varying from about \$13,740 in Washoe County to \$8,299 in Storey County. Conditions in mining areas are depressed because of declining world prices for gold, barite, and copper. Mining-dependent areas are trying to diversify, just as the three major economic areas are trying to move away from gaming.

Government spending on social services is low, which may become a problem as more older people move to Nevada. The U.S. Dept. of Education ranks Nevada 51st in the nation in money spent for education on grades K-12. Educators fear that this minimal spending will be a serious obstacle to economic diversification.

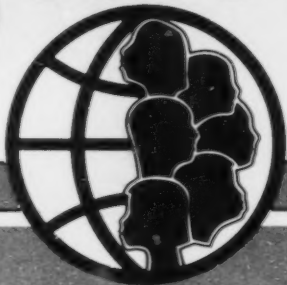
Population is a determining factor in what is perhaps one of Nevada's most notorious singularities: legal prostitution. The legality of prostitution is decided by each local government, though it is banned by state law in counties whose population is greater than 250,000 people (a level currently exceeded only by Clark County).

Nevada is also known for its relatively relaxed marriage and divorce laws. Marriage/divorce statistics reflect this: The marriage rate in the U.S. was 10.6 marriages per 1,000 population in 1981; the marriage rate in Nevada that year was 119.9 per 1,000 state inhabitants, i.e., over one marriage for every 10 Nevadans, due of course to transient outsiders coming in to tie the knot. The divorce rate, meanwhile, was 17.6 divorces per 1,000 state inhabitants, compared to a national rate of 5.3. □



Reno, Nevada.

POPULATION TODAY™



Vol. 13, No. 4

6 April 1985

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WORLD	4,845,183	27.50
MORE DEVE	1,174,183	15.34
LESS DEVE	3,671,000	31.39
LDC LESS	2,629,000	36.45
AFRICA	551,272	45.06
NO. AFRIC	127,877	48.74
ALGERIA	22,285	45.00
EGYPT	48,337	37.00
LIBYA	3,980	46.00
MOROCCO	24,258	41.00
SUDAN	21,797	46.00

With one final button press, spread-sheet magic delivers the *World Population Data Sheet's* grand, grand totals for 1985. See page 2

A WORLD OF 4,845,000,000 PEOPLE

According to PRB's just-released 1985 *World Population Data Sheet*, the world's population growth rate has continued its very gradual slowdown, and now stands at just under 1.7 percent annually. This represents a downward shift of approximately 20 percent in the rate since the estimated peak of 2.1 percent in the late 1960s.



Mary M. Kent and Carl Haub, PRB demographers who prepared this year's *Data Sheet*.

There is less to this trend than meets the eye: fertility rates are not marching down everywhere. In fact, virtually all of the decrease in the earth's average growth rate in the past few years can be accounted for by a single country: China. The most recent data for China indicate a sharp drop in fertility from 1981 to 1983, from a total fertility rate (TFR), or average number of lifetime children per woman, of 2.6 to 2.1.

China Below Replacement Level

The reported rate for 1983 of 2.07 would mean that China is now below replacement level fertility, or the roughly 2.1 children per woman needed to ensure long-term stability in population size. Should China's fertility continue below replacement, its population would ultimately decrease, several decades hence. Thus, the Chinese government may set a goal of actually decreasing the population size to, say, 700 to 900 million from the present 1.04 billion.

The future course of China's population policy is of course unknown. China could change its policies if, for example, its leaders decided that the very rapid aging of the population (a result of continued swift birth rate decline) would cause unmanageable problems. Any shift away from the stringently enforced one-child family policy would have resounding consequences on projections of future world population size.

The Arable World

This year's *Data Sheet* puts total world population at 4.845 billion in mid-1985. Barring any major reevaluations of the size of large country populations, the next milestone, 5 billion, should occur by 1987. The projected population for 2020, 7.760 billion, is less than last year's 8.086 billion—again, largely a result of a lowered projection for China. Each edition of the *Data Sheet* contains one special, or "wild-card," column of information, the subject of which varies from year to year. *Data Sheet* users have often requested a column showing the physical size of each country. The last column of the 1985 *Data Sheet* gives this in square miles (note: 1 sq. mile = 2.59 sq. kilometers), along with the percent "cultivable" or "arable."

Overall, the world's countries contain about 52 million square miles, 11 percent of which is reported as arable by the UN Food and Agriculture Organization (FAO). As defined by the FAO, arable

Continued on page 8

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Educator—regular	20	25.00
Library (public, university, school)	40	50.00
Corporation or institution	200	250.00

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**Does not include Population Today and Population Bulletins

When Adolescents Have Children

Teenage childbearing is nothing new. And in fact, fertility rates of women under 20 are declining almost everywhere, in tandem with the rates for older women. But new in the past decade or so in both developed and developing countries is growing recognition of and concern over the adverse health, social, economic, and demographic effects of adolescent fertility, say Judith Senderowitz and John Paxman in PRB's April *Bulletin*, "Adolescent Fertility: Worldwide Concerns."

Even in developed countries, rates of illness and mortality are significantly higher for teenage mothers and their babies than they are for older mothers, they report.

Early childbearing is likely to cut short a woman's education, reducing her future job options and family earnings. Often it also means larger completed family sizes which, along with shorter time spans between generations, contribute to rapid population growth.

What happens with teenage childbearing in developing nations is particularly important for world population growth, say Senderowitz and Paxman. Eighty-two percent of the world's 245 million women aged 15-19 live in developing countries now and their number is projected to go up another 75 million in the next 35 years (though numbers of women this age will decline slightly in developed nations as a whole).

Senderowitz is Executive Director of the Center for Population Options in Washington, D.C., a research and educational organization focusing on teenage fertility issues in the U.S. and abroad. Paxman, Chief of the Public Policy Division of the Boston-based Pathfinder Fund, has written widely on law and population issues, particularly related to adolescent fertility. Their *Bulletin* was prepared as a contribution to International Youth Year 1985, designated by the United Nations to highlight and improve "the world situation of youth."

In much of Africa, Asia, and Latin America where early marriage and childbearing are still the norm,



A young mother in India.

birth rates of women aged 15-19 are far over 100 births per 1,000, the authors report, though the rate is just 15 in China, the world's most populous country. These rates are generally low in developed countries—4 births per 1,000 in Japan, 9 in the Netherlands, though the U.S. rate in 1982 was 53 (45 for white women aged 15-19 and 97 for blacks). But many developed countries and some fast-urbanizing developing countries are concerned about the growing proportion of teenagers' births which occur out of wedlock—51 percent in the U.S. and 52 percent in England and Wales in 1982—and unmarried teenagers' increasing reliance on abortion.

This trend is linked with more and earlier premarital sexual activity, fostered by the lengthening "bio-social gap" between puberty and marriage, loosening of traditional parental and social controls, and increasing peer and media pressures to be sexually active.

From Nigeria to the U.S., surveys reveal that at least half of unmarried women in their later teens and a quarter as many more males are sexually experienced.

Providing unmarried teenagers with sexuality education and birth control services is still controversial almost everywhere, say the *Bulletin* authors, but laws and policies are changing. Sex education in schools (broadened to "family life education") is now mandatory in several European countries, in Costa Rica and the Philippines, in Maryland, New Jersey, and the District of

Columbia in the U.S., and widely offered in practice elsewhere.

Except for parts of Africa, China, and a few other developing countries, birth control is legally available to unmarried teenagers. But this group tends not to use family planning services "in large numbers," say the authors—held back

Continued next page

The Perils of NIH

The National Institutes of Health (NIH) has come into the sights of federal budget cutters. A directive issued by the Office of Management and Budget in December 1984, while not cutting the Senate-approved appropriations for NIH, has instead placed restrictions on the money's use: It sets aside millions of dollars of what had been money intended for 1985 for use in 1986 and 1987; it cuts the number of NIH grants for FY1985 from 6,526 to 5,000.

The National Institute for Child Health and Human Development, an NIH branch which includes the Center for Population Research, stands to lose approximately 10 percent of its appropriated grants. NIH was looking forward to an unusually high increase in the the number of grants funded.

Congress had appropriated a recordbreaking total of \$5.15 billion. Instead of spending that money on the 6,526 one-year grants intended by Congress, the directive requires some of it be used for three-year grants. As a result, the money would cover only 5,000 grants for 1985. NIH usually gives a researcher a series of three one-year grants, renewing money for the second and third year without requiring a fresh round of peer reviews. The new policy means that fewer new projects will start this year and that there will be correspondingly fewer up for renewal next year and the year after. The savings should amount to \$280 million. Many NIH observers object, stating that OMB has clearly violated the will of Congress. □

FROM THE EDITOR'S DESK

Hard-working, tastefully dressed, enterprising, cheats (as time), faithful acolytes of The System, Young Urban Professionals arguably embody a major part of the American Dream. But nothing good lasts forever. Herewith, some fearless predictions on the future of Yuppie-dom:

Yuppie Populism. Competition among baby boomers means that inevitably, most Yuppies will fall short of their goals. As ambition turns to bitterness, Yuppies will be ripe for a Yuppie demagogue ("The only reason you didn't make Senior Vice President, my friends, is because of them [insert scapegoat here]!").

Yuppie Mid-Life Crisis. ("Where did I put those old love beads of mine?")

Breaking Training. Tying on those running shoes for the 1,137th time, the Yuppie will balk at last ("What am I doing?"), contributing to the haute couture "Round Look" of the 1990s, and to...

Yuppie Hypochondria. The next major health field, as Yuppies and their physicians become as fastidious about their symptoms as about their fettsocias. ("Let's run a few tests, just to be sure...")

Enjoy Them While You Can. Because 90 or 100 years from now there won't be any Yuppies. With a total fertility rate of about 0.3 children per couple (our observation), they will have (tragically? obligingly?) hosed themselves out of existence.

—Art Haupt

Continued from preceding page
by embarrassment, fear of being found out, teenagers' typical risk-taking behavior and tendency not to plan ahead, and the perception that they are unwelcome in clinics geared to adults.

To reach teenagers successfully, they report, planners are learning to go where the teenagers are—in schools, recreational centers, and at work—with birth control services tied in with other activities important in adolescents' lives. "The Door" in

New York City offers family planning along with job counseling, sports, dancing, and crafts in a model copied in several Latin American cities. Jamaican and Indian programs reach young women at work. High school clinics in a dozen U.S. cities offer birth control services along with physicals, immunizations, and weight and smoking control advice. Teenage family planning volunteers in England, Guatemala, and West Germany talk with their peers in pubs and youth groups.

Say the authors: "Attempts to provide adolescents with fertility regulation need to be regarded not as attempts to subvert public morals but as what they are: forthright efforts to alleviate what is becoming a major health and social problem." Programs tailored for teenagers are "reducing adolescents' reliance on abortion through preventive measures and further, helping adolescents to understand the benefits of delayed sexual activity." □

Copies of the 50-page *Population Bulletin*, "Adolescent Fertility Worldwide Concerns," can be ordered for \$4.00 ea.; 2-10 copies, \$3.00 ea.; 11-50 copies, \$2.50 ea.; over 50, \$2.00 ea. See page 10 for handling charges.

SURVEY REPORT

Japan Survey on Family Planning

Japan has been a faithful compiler of its Public Opinion Survey on Family Planning, which has been taken every two years since 1950, when it was one of few such projects in the world. The survey is sponsored by the the Mainichi newspapers in tandem with Japan's Population Problems Research Council.

Results of the most recent survey (the 17th), taken of 3,400 married women under age 50, are now available. Japan boasts an infant mortality rate of 6.2 infant deaths per 1,000 live births, one of the lowest in the world. Its crude death rate is 6.2 per 1,000 population.

The average age at first marriage for females in Japan is high, 25

years. The average number of children considered ideal is 2.55. Interestingly, this figure varies little when asked of women of different levels of educational attainment. The highest average number of ideal children, 2.64, came from college graduates, whereas the lowest figure, 2.52, came from those who have completed only primary and middle school, the lowest level of educational attainment noted.

In terms of contraceptive use, 57 percent of the wives surveyed are considered current users (up from 19.5 percent in 1950), 23 percent past users, and 17 percent have never used contraceptives. The condom is by far the number one contraceptive in Japan, with a following of 78.4 percent of contraceptive users. Periodic abstinence (or rhythm) is a distant second, with 19.9 percent, followed by the 11.6 percent who use the IUD and pill. Women are most inclined to begin using contraception once they have had 2 children.

Abortion, the survey reported, is used only partly for timing of births, and mainly for backup in the case of contraceptive failures. Of the women interviewed, 39.8 percent reported having had an abortion. Only 17.4 percent of the women surveyed stated that they approve of abortion, though 68.1 percent "approve conditionally," and 10.3 percent disapprove. □

Contraceptive Implant Coming of Age

The contraceptive implant, a major innovation in birth control, is well on its way to becoming an international commercial reality. The Norplant contraceptive implant is on sale in one country, with additional sales markets expected to open up this year. And most importantly, the World Health Organization, in an evaluation announced in December 1984, has concluded that Norplant is an "effective and reversible long-term method of fertility regulation."

Norplant went on sale in Finland in November 1983 and has just been

Continued on next page

Continued from preceding page

registered for sale in Sweden. The contraceptive's developer, the Population Council, hopes in the next two years to get the contraceptive registered in some 40 countries—approval by the U.S. Food and Drug Administration is expected in about two years; the progestin steroid used in the drug is already in use in oral contraceptives.

In short, a subdermal implant has now joined the other major forms of reversible birth control (namely, the pill and IUD). The contraceptive consists of six small silicone-rubber tubes (3.4 cm long $\times$ 0.24 cm in diameter, i.e., 1.3 inches $\times$ 1/10th inch) implanted side by side beneath the skin in a woman's arm. (Trained medical personnel must perform the insertion and removal.) Invisible and unfelt, the tubes release small amounts of the steroid

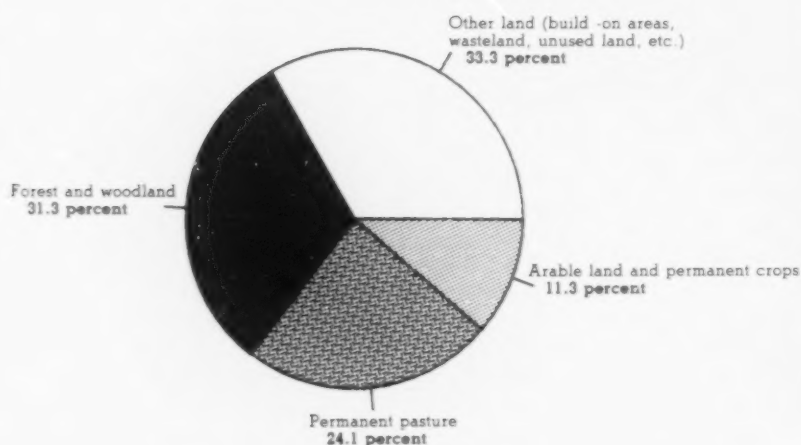
levonorgestrel into the bloodstream.

Once placed beneath the skin, Norplant works for five years without replacement (it can be removed at any time to restore fertility). The contraceptive has shown very low pregnancy rates (0.2 to 1.3 pregnancies per 100 woman users during a five-year period). Because of this convenience and reliability, the impact of implants on birth control practice—particularly in less developed countries—is potentially enormous.

This effort to develop an effective contraceptive implant began in 1966. It was conducted by Sheldon Segal and Horacio Croxatto, at the Population Council's labs at the Rockefeller University in New York. In 1976 the researchers settled on the proper steroid, and since then the contraceptive has been used in clinical trials and field studies by 14,000 women in 14 countries. □

SPEAKING GRAPHICALLY

The World's Land



Generally speaking, only a small percentage of the land area of a country is classified as arable. If so, what is the rest of the land? The above chart depicts the world's land using the FAO's classifications. Remember, "arable" here means actually cultivated, not potentially cultivable land.

Source: FAO Production Yearbook, 1983.

New at PRB

Four new members have been elected to PRB's Board of Trustees. The selections were made at the Board's semi-annual meeting in Washington, Mar. 22.

Mildred Marcy, chair of the Board, announced the new trustees. They are:

Frances Garcia, a partner in the Washington accounting firm of Quezada, Navarro, & Co.

Anne Firth Murray, program officer at the William and Flora Hewlett Foundation, in Menlo Park, Calif.

Lenneal Joseph Henderson, Jr., Professor in the School of Business and Public Administration at Howard University.

Vivian H. Walton, Vice President and General Auditor, the National Bank of Washington.

At the same meeting, trustee Michael Brewer stepped down after two full terms on the Board.

New Visiting Scholar Chosen

Robert W. Gardner has been selected as the Andrew W. Mellon Foundation Visiting Scholar at the Population Reference Bureau, Inc., in Washington, D.C. for the academic year beginning Sept. 1, 1985.

Dr. Gardner is currently Research Associate in Demography at the East-West Center in Honolulu, Hawaii, where he has been since 1970. He will be on leave from that position during his stay at PRB.

While at PRB, Dr. Gardner will study in detail the topic of Asian immigration to the U.S. He has published extensively in this area and will be concentrating on the future dimensions of migration from the Asian continent to the U.S. and its potential impact on U.S. society. He is also the co-author of a forthcoming *Population Bulletin* on Asian Americans. □

DEMOGRAPHER'S

Urban Primacy in Developing Countries: The Case of Mali

by Ousmane Sokona

Urbanization in poor countries is often characterized by the emergence of large, densely populated cities, which are sometimes seen as parasitic, rather than economically generative. There are, however, some controversies among social scientists about the role of cities in the process of development.

Some authors argue that cities create savings and play a key role in economic development,¹ because of the concentration of economic activity. Economic development may not in fact be possible without the rise of cities, it is argued.

Others contend that if economic expansion is concentrated in one or two cities, the economic development of the country's urban and nonurban areas will not be in balance.² The development of intermediate and small towns is considered necessary for urbanization to contribute to the development of the entire country.

In developing nations, intermediate cities often do not exist. Urban patterns in today's LDCs are often characterized by the existence of a large city, usually the capital, with a multitude of much smaller cities. To analyze a country's relative city sizes in a standard way, the concepts of rank size and primacy were developed by social scientists.

Rank Size and Primacy

The rank-size rule has been called the "normal" pattern of urbanization.³ Under rank sizing, the urban hierarchy follows second largest city, three times as large as the third

Mali's Cities by Rank and Size
for Localities of 10,000 and More: 1976

City	Pop. size	Rank	Approx. fraction of largest city's pop.	Rank size (2) × (3)
(1)	(2)	(3)	(4)	(5)
Bamako	419,136	1	1	419,136
Segou	65,398	2	1/6	130,796
Mopti	53,321	3	1/7	159,963
Kayes	49,429	4	1/8	197,716
Sikasso	46,498	5	1/9	232,490
Gao	30,859	6	1/14	185,154
Koutiala	27,156	7	1/15	190,092
Kati	24,828	8	1/17	198,624
San	23,377	9	1/18	210,393
Tombouctou	19,163	10	1/22	191,630
Kita	17,490	11	1/24	192,390
Koulikoro	16,132	12	1/26	193,584
Nioro	11,715	13	1/36	152,295

Source. Bureau Centrale de Recensement, 1980.

largest, and so forth. Although this series of diminishing size makes for a statistically satisfying pattern of pluralistic cities, few developing nations actually follow this rank-size rule.

More countries follow primate ranking. A country is regarded as "primate" if its largest city is several times larger than its second largest city.⁴ In general, a city of rank n is considered primate if it is more than $(n + 1)/n$ times larger than the city of rank $(n + 1)$.

Countries with one or more primate cities are characterized by an imbalanced population distribution with economic growth concentrated in very few cities, sometimes at the expense of the growth of other smaller cities and the rural areas. In addition to their disproportionate size, such cities often house government offices and thus political power. Many decision makers concentrate on the problems of these cities (such as high unemployment, and the lack of housing, schools, and basic health care), consequently spending a disproportionate share of government resources on coping

with these problems—even though the country may be facing other development challenges as well.

Mali's Urban Concerns

The case of Mali, in Western Africa, provides an example of developing world urbanization patterns—and primacy.

At first glance Mali's statistics seem deceptively reassuring. It is, after all, a relatively large and sparsely inhabited sub-Saharan country in West Africa. Of the estimated 1984 population of about 7.6 million, only 1.3 million of its people (17 percent) live in urban areas. The latest census definition requires that an agglomeration need only have a population of over 5,000 to be denoted urban. There is no requirement that such areas display other "urban" characteristics, such as large industrial, commercial, and transportation centers, modern construction, or an "urban way of life."

Mali's 17 percent urban seems quite low compared to such other sub-Saharan West African countries as Senegal (34 percent) and the

Ivory Coast (38 percent). However, 50 percent of Mali's urban dwellers reside in the capital, Bamako.

The table, which contains all cities of 10,000 or more inhabitants as of 1976, shows how Bamako compares to other smaller cities in Mali.

Ideally, according to the rank size rule, Bamako would have a population of not more than 130,796, double that of Segou, the second largest city. Bamako is actually about six times more populous than Segou, and in fact, 38.9 percent of Mali's total urban population resided in Bamako in 1976. Therefore, Mali can safely be considered primate.

Other indicators for primacy are the four- and 11-city primacy indexes. These are defined as follows:

$$\text{4-city primacy index} = \frac{C_1}{(C_2 + C_3 + C_4)}$$

and

$$\text{11-city primacy index} = \frac{2C_1}{(C_2 + C_3 + \dots + C_{11})}$$

where C_i is the size of the i -th largest city. The higher than unity any of these indexes is, the higher the degree of primacy of the largest urban center in the country. In the case of Mali, the four-city index for Bamako, equal to 2.49, indicates that the population of Bamako is about two and one-half times the total population of the next three cities, Segou, Mopti, and Kayes. In other words, the Malian capital city is primate.

The calculation of the 11-city index is nearly the same—2.34—even though the next seven cities were added to the balance. The slight (−0.15) change suggests that

Mali's cities of Rank 5 and over are much smaller than might be desired, according to the rank-size rule.

The rank-size rule holds only when the product of rank $\times$ population for each city tends to be constant across all cities (as in Column 5 in the table); or (to put it another way) when the rank (Column 3) of each city equals the denominator of its relative population size expressed as a fraction (Column 4).

From the rank $\times$ size products given in Column 5 of the table, it is clear that the system of cities in Mali does not follow the rank-size rule; Bamako's product dwarfs the product of the runner-up cities. (Interestingly, if Bamako is excluded and Segou is considered the largest city, the products of the runner-up cities are greater than Segou's.)

Conclusion

The primacy condition is present in almost every developing nation today. Bamako, a colonial capital, houses more than half of all Malian urbanites. Its annual growth rate of 11.6 percent as of 1976 is more than two and one-half times the rate for the total urban population.

The implications of rapid growth for an already primate city are not trifling. Because of the low correlation between an LDC city's rate of growth and its economic growth, a direct consequence of Bamako's high growth rate is an increasing public demand for housing, jobs, and public services, more than the city can afford. One can safely predict the emergence of social burden, created by natural increase as well as the existence of high rates of rural-urban migration.

The existence of squatter settlements is one of the major physical problems confronting urban areas in the LDCs. (Examples in Bamako

are the shanty towns of Bankoni and Bozola.) New migrants to the city tend to settle in shanty towns, lacking even such minimum services as piped water and electricity. It has been noted that squatter settlements in LDCs are usually characterized by limited literacy and low occupational skills. This leads to the well-documented urban problems of high rates of unemployment, the development of shanty towns, and higher demand for health and other services which plague many developing countries, including those in Africa. □

References

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Continued from page 2

essentially means land actually used for seasonal crop production or for permanent crops (e.g., coffee or rubber trees). Other large chunks of territory are assigned to other categories such as forest and woodland (see this month's *Speaking Graphically*, page 5).

It is important to note that "arable" and "potentially cultivable" are really two different concepts. Regions and countries often do have potentially cultivable territory which could be, but is not, used for food production. This area is not considered arable.

But expanding cultivated area to raise more food is not a simple task. While there are large amounts of potentially cultivable, yet unused, land, there are frequently sound economic reasons why the land is not used. The capability to bring additional land under cultivation varies, as does the area of potentially arable land contained in different countries.

Data Sheet Sidebars

As the new *Data Sheet* shows, the wide disparity between more and less developed countries' population growth continues; about 92 percent of population growth annually occurs in the less developed regions. The *Data Sheet* indicates that more developed countries (MDCs) are projected to increase from 1985's 1.2 billion to 1.4 billion by 2020 (projections used on the *Data Sheet* assume that present low fertility rates will continue rather than assuming that the MDCs will return to the "replacement level" of the two-child family).

Excluding China, the less developed countries (LDCs) are projected to rise to 5.1 billion by 2020 from today's 2.7 billion. As large as the 35-year increase may seem, it is based on the assumption that the LDCs will, for the most part, be well on their way to low birth rates, presumably as a result of continued increase in family planning.

All in all, considering all the ef-

fort that has gone into economic development and family planning around the world, the 1985 *World Population Data Sheet's* inventory of where population now stands shows that population changes are rarely sharp ones. What change there is comes slowly. □

See page 10 for order information for the 1985 *World Population Data Sheet*.

POSITIONS PROFESSIONALS

Positions available in population-related fields will be published in *Population Today* on a space-available basis. Send information to Positions/Professionals, PT, Population Reference Bureau, 2213 M St. N.W., Washington, D.C. 20037. Positions listed in PT are provided by Equal Opportunity Employers.

Bilingual Research Associate, Family Health International, to manage projects in maternal-child health care. **Qualifications:** PhD in maternal-child health, biostatistics, or demography, or masters degree with four years relevant experience; at least two years experience in analyzing data and report writing; written and verbal communications skills in English and French. **Contact:** Personnel, Family Health International, 1 Triangle Dr., Research Triangle Park, N.C. 27709. An Equal Opportunity/Affirmative Action Employer, M/F/H.

Grants Officer (South America/Caribbean), Association for Voluntary Sterilization, New York, to work on grant programs in the South America/Caribbean region. **Qualifications:** masters degree in public health/administration or equivalent experience, knowledge of family planning or health programs in the region; Spanish preferred. **Salary:** \$25,700. **Contact:** M. Riedlinger, Association for Voluntary Sterilization, Inc., 122 East 42nd St., New York, N.Y. 10168.

Summer Intern, General Motors Corp., Detroit, to perform work force demographic studies and analyze employment forecast data relevant to sourcing decisions for GM's Analysis and Strategic Planning Section. **Qualifications:** academic background in human resource planning, demographics, or business planning; strong background in quantitative analysis. **Contact:** Patricia J. Snider, Industrial Relations, General Motors Corp., 3044 West Grand Blvd., Room 9-101, Detroit, Mich. 48202.

Data Sheet Highs and Lows

Population	
China	1,042,000,000
St. Kitts-Nevis	44,000
Crude Birth Rate (births per 1,000 pop. per year)	
Kenya	54
West Germany	9.5
Births per year	
India	26,100,000
Antigua and Barbuda	1,200
Crude Death Rate (deaths per 1,000 pop.)	
Sierra Leone	30
Kuwait, Qatar	3
Deaths per year	
India	9,600,000
Dominica	370
Rate of Natural Increase (percent per year)	
Kenya	4.1
Hungary	-0.2
Natural Increase per year	
India	16,500,000
Luxembourg	70
Population, 2000 (projected)	
China	1,197,000,000
St. Kitts-Nevis	48,000
Population, 2020 (projected)	
China	1,288,000,000
St. Kitts-Nevis	50,000

Infant Mortality Rate (infant deaths per 1,000 births per year)	
Afghanistan	205
Finland	6
Infant Deaths per year	
India	3,100,000
New Caledonia	11
Total Fertility Rate (average total no. children per woman)	
Kenya	8.0
West Germany	1.3
Percent Pop. < Age 15	
Jordan	51
East and West Germany	17
Number < Age 15	
China	350,100,000
St. Kitts-Nevis	16,000
Percent Pop. Age 65 +	
Sweden	16
Kuwait	1
Number Age 65 +	
China	51,100,000
French Polynesia	3,000
Life Expectancy (years)	
Japan	77
Sierra Leone	34
Percent Urban	
Singapore	100
Rwanda	5
GNP per capita (US\$ 1983)	
United Arab Emirates	\$21,340
Bangladesh	130

WORLD FOOD NEWS

Calling the current famine the most serious catastrophe in the history of Africa, FAO Director-General Eduardo Saouma recently warned that the emergency food aid program now underway must be accompanied by extensive measures to revive Africa's devastated agriculture. While stressing the urgent importance of relief operations, he said that "we cannot stop at delivery of grains, edible oil, medicines, and blankets. We must simultaneously rebuild Africa's capacity to feed itself. Bags of fertilizer must be unloaded along with bags of wheat."

Emergency aid can perpetuate dependency, Saouma continued, unless a strategy to increase the productive capacity of African agriculture is simultaneously adopted. The African farmer should be helped to become self-reliant, changing roles from dependent to producer.

Fertilizers can unlock dramatic increases in productivity, he noted; proper use of fertilizers could increase yields by 50 to 60 percent in less developed countries—"A ton of fertilizer aid often translates into 10 or more tons of grain."

Third World countries used only an average of 33 kilograms of fer-

tilizer per hectare in 1982-1983. This falls far short of the 111 kilograms per hectare consumed by the industrialized nations and 122 kilograms by the centrally planned economies.

Saouma appealed to traditional donor nations as well as those that have recently emerged as major producers to provide generous fertilizer aid for the most impoverished countries. He urged action to stimulate joint ventures to increase the fertilizer production capacity in developing countries and urgent measures to use existing production capacity to the fullest. □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

UNFPA Funding Review Continues

The delay of \$23 million of U.S. aid to the UN Fund for Population Activities continues (see *PT*, March 1985).

The U.S. Agency for International Development is holding up the money pending review because of concern about reported coercion in China's family planning programs—and although UNFPA's population assistance to China does not go into family planning programs per se, the Reagan administration perceives a linkage.

Efforts are presently underway in Congress to compel release of the AID funds on grounds that they are earmarked for UNFPA. Meanwhile, rumors persist that AID director M. Peter McPherson may try to send a small delegation to China to investigate the coercion charges. □

Frances Breed 1918-1985

Frances Breed, an influential leader in the effort to unite population and environmental groups, died Feb. 15, 1985. She was 66.

Breed was the manager of the Population Program at the National Audubon Society, a post she held for five years. During her tenure, she was instrumental in communicating the Society's present concern about population issues. In addition, she worked extensively with both population and environmental groups to foster close relations and to emphasize the groups' mutual concerns. She had been at the Audubon Society for 13 years.

Breed was instrumental in the founding of the Global Tomorrow Coalition and was a leader among non-governmental organizations involved in population. □

Population Update

Estimated United States Population:

As of November 1, 1984	237,457,000
As of November 1, 1983	235,306,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Projection Reports*, Series P-25, No. 962.

Estimated World Population:

As of April 1985	4,824,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1985 population given on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: November 1984

Item	12 months ending with November					
	Number		Rate			
	1984	1983	1984	1983	1982	1981
Live births	3,667,000	3,646,000	15.5	15.6	16.0	15.9
Deaths	2,040,000	2,011,000	8.6	8.6	8.6	8.7
Natural increase	1,627,000	1,635,000	6.9	7.0	7.4	7.2
Marriages	2,473,000	2,449,000	10.5	10.5	10.8	10.6
Divorces	1,160,000	1,181,000	4.9	5.1	5.1	5.3
Infant deaths	39,700	39,900	10.6	10.9	11.3	11.8
Population base (in millions)	235.9 233.5 231.3 229.1					

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source: *Monthly Vital Statistics Report* (Vol. 33, No. 11) from the National Center for Health Statistics.

NEW FROM PRB

Build-a-Text Arrives

PRB's new Build-a-Text program allows instructors to assemble their own course materials from over 40 PRB *Bulletins*, *Handbooks*, *Data Sheets*, etc. The instructor selects from three to seven materials; PRB prepares individual packets for the course, labeled with the instructor's name and course title and number. A *World Population Data Sheet* is included in each packet as a special bonus. Write PRB for a free brochure describing the Build-a-Text Program.

The Food Crisis in Sub-Saharan Africa. *Interchange*, April 1985. 4 pages. A summary of the African famine situation written for college or secondary school students, with teaching resources. Prices: \$1.00 ea., 2 or more copies, 75¢ ea.

The 1985 World Population Data Sheet. The annual grand total from PRB. See article starting on page 2 of this issue. Prices: \$2.00 ea.; 2-10 copies, \$1.75 ea.; 11-50 copies, \$1.50 ea.; over 50, \$1.25 ea.

Adolescent Fertility: World-wide Concerns. by Judith Sanderowits and John Paxman, the new *Population Bulletin* for April 1985, describes ways different countries are coping with this special problem. See article on page 3 of this issue. Prices: \$4.00 ea.; 2-10 copies, \$3.00 ea.; 11-50 copies, \$2.50 ea.; over 50, \$2.00 ea.

An Introduction to Population Dynamics. Teaching kit containing the *World Population: Fundamentals of Growth* student chartbook, six wall charts, a teacher's guide, and 1985 *World Population Data Sheet*. \$17.50 ea.

Handling charges: inside the U.S., add \$1.00 for each order; outside the U.S., add 25 percent to the cost of the order. Orders of \$20.00 and under must be prepaid. Send order and remittance to Circulation Dept., PRB, P.O. Box 35012, Washington, D.C. 20013. Checks payable to PRB.

TAKE A NUMBER...

Canada Sets Immigration: Canada has set an immigration level of between 85,000 and 90,000 for 1985, according to Flora MacDonald, Minister of Employment and Immigration. This policy will undergo a major review next year. According to the government, immigration has had a beneficial economic effect in Canada with "business immigrants" bringing in a total of \$820 million during 1983 with that capital creating about 4,600 jobs. Admitted immigrants must have prearranged employment. This policy does not hold for persons applying under family reunification programs, expected to be about 45,000 in 1985, or refugees, expected to number 11,000. The figures are not quotas, but anticipated numbers based on current policy.

Urban Cow?: The 1980 Census has caused quite a few metropolitan areas across the U.S. to absorb neighboring counties, based upon such criteria as commuting patterns, etc. The Washington, D.C., metro area picked up the outlying counties of Frederick, Md. and Stafford, Va. *The Washington Post* recently pointed out that this has the effect of adding 190,000 people, 1,152 sq. miles and 100,000 cows! We're not sure that this means anything, but we welcome these metropolitan bovines.

U.S. Infertility: The recent National Survey of Family Growth measured infertility for all U.S. women for the first time, not just married women. All in all, about one-third of American women were incapable of, or would have had difficulty with, child-bearing, either because of physical impairment or sterilization. The proportion of young couples (wife aged 20-24) who were infertile rose from 4 percent in 1965 to 11 percent in 1982, the study also found.

From the Data Sheet: Based upon numbers given on this year's *World Population Data Sheet*, the following sobering observations can be made: There are more infant deaths in Morocco each year than in all of Europe; about 98,000 in Morocco whose population totals about 24 million and 95,000 in Europe, total population, 492 million. Cameroon, total population 10 million, has more annual infant deaths, 50,000, than does the U.S., population 239 million. But if Cameroon had the U.S.'s infant mortality rate of 10.5, it would have only 4,500 infant deaths annually. And, as the *Data Sheet* shows, neither Morocco nor Cameroon have the highest rates among less developed countries.

Here and There... "I haven't the slightest idea". So responded a Massachusetts official when a *Wall Street Journal* reporter asked him why Massachusetts enumerates dogs in its annual state census.

...addenda



As veteran *PT* readers may recall (see January 1984), the road to Clagetsville, Md., used to greet travelers with a warm, informative sign that read: "Welcome to Clagetsville, pop. 28 or 29." No more; last spring vandals made off with it. They also made off with a metal replacement sunk in reinforced concrete and with the replacement to that, which read simply "Thou Shalt Not Steal" (all these signs had been prepared by a Clagetsville resident with local pride and a sense of humor). While absconding with the signposts containing vital demographic data is not a federal offense (yet), travelers on route 27 are now on their own as far as guessing the total numbers of people residing in this teaming Free State metropolis.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

THE POPULATION OF THE UNITED STATES: Historical Trends and Future Projections. by Donald J. Bogue. New York and London: The Free Press. Macmillan, 1985. 728 pages. \$70.00. ISBN 0-02-904700-5

This is the "demographer's desk reference" for information on the population of the United States. It provides data on current patterns and recent trends in all of the major facets of U.S. population, as well as historical data, projections, and international comparisons. The materials are arranged in twenty chapters, grouped in five sections. The first covers population growth, age, sex, and ethnic composition, and geographic distribution. The second analyzes the components of population change, including family formation, fertility, mortality, and migration. Section III focuses on the social aspects of population composition, including living arrangements, education and school attendance, and ethnicity, while Section IV covers economic topics such as labor force participation, income and unemployment. The last section deals with the demographic dimension of a selection of topics: poverty, politics, housing and religion. A special chapter is devoted to the population of Puerto Rico.

The volume is data- rather than issue-oriented. It draws mainly on official sources, including the Census and Current Population Survey as well as vital statistics, but incorporates work by the National Opinion Research Center and the University of Michigan's Center for Political Studies on religion and politics. While rich in tables and charts, it leaves discussion and interpretation of its information on such major population-related policy issues as aging and immigration to its professional and policy-oriented users. But for its cost, the volume would be an excellent introductory text for courses on the population of the United States. Each chapter begins with an excellent glossary defining concepts and measures. Charts illustrate important patterns and trends, and examples of census and vital statistics reporting schedules are provided. Hopefully, its publisher will consider a less expensive text edition.

—Thomas W. Merrick

THE CHILDBEARING DECISION: Fertility Attitudes and Behavior. edited by Greer Litton Fox. Beverly Hills: Sage Publications, 1982. 271 pages. \$25.00

hardcover. \$12.50 softcover. ISBN 0-8039-0136-40.

This book, a compendium of articles by individual authors, covers changes over the last 20 years in childbearing in the U.S., the most obvious being the decline in fertility. This decline is reflected across economic, racial, educational, and social groups. Other changes are divided into behavioral and ideological categories. Behavioral changes include a rising age at marriage and increasing intervals in childspacing. However, since fewer couples are having more than two children, couples are actually becoming younger at the end of their childbearing period. Meanwhile, support for childlessness in the U.S. has increased, along with greater participant control in the birth process. Unprecedented importance is now given to the individual child. *The Childbearing Decision* also covers the major changes in contraceptive use, and explores the role of social, psychological, motivational, and interpersonal factors on U.S. fertility behavior, giving a broad overview of today's attitudes and trends.

—Maria Matan

THE WORLD OF THE OLDER WOMAN: Conflicts and Resolutions. edited by Gari Lesnoff-Caravaglia. New York: Human Sciences Press, 1984. 189 pages. \$24.95.

"The problems of old age in the industrialized world are largely the problems of women." This compact collection of 11 lively articles tells us why. A variety of dimensions of the women's world are discussed: psychosocial problems associated with stigma, low status, poverty, and low self-esteem; legal issues concerning the causes of poverty and why women have been discriminated against in the law; harassments older women are heir to, such as abuse, rape, employment discrimination, and being ignored; the isolation of institutionalized women, who as widows of advanced age often face a depersonalized environment without recourse to family or community support. The strength of this book lies in its informative and direct approach to issues. Strategies to resolve the double jeopardy of being old and being female are considered, with special emphasis on empowerment, public education, and services to support women in their care-giving roles.

—Alice Day

IMMIGRATION: Issues and Policies. edited by Vernon M. Briggs, Jr., et al. (Prepared for the National Council on Employment Policy). Salt Lake City: Olympus Publishing Co., 1985. 146 pages. \$9.95.

The three essays that make up this book review U.S. immigration policy to 1984, and deal with labor market effects of immigration. Briggs in his introductory essay observes that current immigration policy manifests a complete uninterest in immigration's implications for the labor force. He advocates shifting administrative responsibilities for immigration policy back to the U.S. Dept. of Labor. Immigration levels, he says, should fluctuate inversely with unemployment trends, and asylee permissions should be compensated for by reducing legal immigration. Prerequisite to successful policy is that measures be taken to curtail illegal immigration via such enhanced deterrence policies and preventive measures as insisting that other countries adhere to human rights principles. In their essay Robert L. Bach and Marta Tienda examine labor conditions of immigrants of various educational and ethnic backgrounds via 1980 Census data. They suggest that immigrant groups, which have suffered benign neglect, should be selectively targeted by the Job Training Partnership Act. In the third essay George Borjas, using an econometric human capital model, estimates the impact of immigration on earnings of indigenous labor, concluding that immigrants complement rather than compete with it.

—Alex von Cube

PUBLICATIONS RECEIVED

AFRICA SOUTH OF THE SAHARA 1984-1985.

Europa Publications Ltd. Detroit, Mich.: Gale Research, 1984. 1,012 pages. \$130.00.

BLACK IMMIGRATION AND ETHNICITY IN THE UNITED STATES. An Annotated Bibliography, edited by the Center for Afro-American and African Studies, University of Michigan. Westport, Conn.: Greenwood Press, 1985. 170 pages. \$29.95.

CANADIAN ALMANAC & DIRECTORY 1985. Book Tower, Mich.: Gale Research, 1985. 1,210 pages.

CONSERVATION DIRECTORY 1985. Washington, D.C.: National Wildlife Federation. 302 pages. \$15.00.

DEVELOPING LATIN AMERICA. A Modernization Perspective, edited by Pradip K. Ghosh, Westport, Conn.: Greenwood Press, 1984. 416 pages.

ENCUESTA NACIONAL DE SALUD MATERNO INFANTILE VARIABLES DEMOGRAFICAS. Ecuador 1982. Ministerio de Salud Publica Instituto Nacional de Investigaciones Nutricionales y Medico Sociales, Quito, Ecuador, 1984. 174 pages.

SPOTLIGHT

BURMA

Population (1985, est.): 37 million
Percent Urban: 24
Births per 1,000 pop.: 37
Deaths per 1,000 pop.: 15
Infant Mortality Rate: 94 infant deaths per 1,000 live births
Annual rate of population growth (1983): 2.2 percent
Area: 261,200 sq. miles (about the size of Texas)
GNP per capita (1983): US \$180

The largest country in mainland Southeast Asia, the Socialist Republic of the Union of Burma is somewhat of an enigma in contemporary Asia. A military coup in 1962 ended the constitutional democracy and initiated the "Burmese Way to Socialism." As a result, foreigners and foreign investments were excluded in order to centralize the government and economy.

In essence, the country withdrew within itself economically and culturally. Visas typically limited foreigners to a one-day stay, and information about Burma was extremely hard to come by. In recent years, however, Burma has slowly renewed contact with the rest of the world.

Recent demographic data about Burma were scanty until the Central Census Committee of the Ministry of Home and Religious Affairs released the results of the national census conducted in March-April 1983. This 100,000-man census counted 37 million people as of 1985, with an average population density of 32 persons per square mile. However, two-thirds of the population lives in the central plateau and southern delta regions along the Irrawaddy River. The vast majority of the country, 89 percent, practices Buddhism.

The country's ethnic makeup is the source of internal strife. The 25 million people who make up the ethnic majority, the Burmese, some 68 percent of the population, dominate the country today as they have for the past nine centuries. Incorporating the ethnic

minorities, who primarily inhabit the mountainous frontiers, into the national life and political structure of Burma is the major struggle of the central government. Currently, the main ethnic minorities, the Karen (Christians), and the Shan, estimated at about 2 million members each, are conducting armed insurgencies against the government. In addition, there is the ongoing struggle against the outlawed Burmese Communist Party dating back to independence from Britain in the wake of World War II.

Only 15 percent of the total area of Burma is under cultivation, and unlike its Southeast Asian neighbors, Burma has an equal amount of yet unused, but potentially cultivable land. The population is growing at a rate of 2.2 percent per year, projected to reach 51.6 million in 2000. The government considers this a satisfactory rate of growth, as it looks to increase the labor supply for agricultural production. The government therefore does not make modern contraceptive methods available to its populace.

Sixty-three percent of the workforce is engaged in agriculture. Due to shortages of fertilizers, pesticides, and farm machinery, much of the agriculture is traditional. Burma is a nation of small landholders with 60 percent of the farmland held by families with 10 acres or less. Along the mountainous

periphery, agricultural techniques are untouched by modern methods. The primary crop is rice, followed by sugar cane, jute, pulses, and groundnuts.

Burmese agriculture suffered greatly from the ravages of World War II and the loss of British technical assistance after independence in 1948. Rice production did not reach pre-war levels again until 1964. The total acreage under cultivation has stabilized at pre-war levels, and although production per acre is now on the rise due to new strains of rice, Burmese agricultural yields are among the lowest in Asia. The steady rise in population, along with the static level of land under cultivation, has resulted in a decline in the quantity of cultivated land per person from 1.39 acres to 0.77 between 1940 and 1978.

Due to the relatively low level of industrialization, Burma has not experienced the rate of urbanization witnessed in other developing nations. Rangoon, the capital, has a population of about 2.5 million, while the second city of Mandalay has a population slightly greater than a half a million. Seventy-six percent of the population is rural.

Immigration into Burma is severely limited. In 1978, Burma reached an agreement with Bangladesh to prevent illegal border crossings. The Bangladeshis agreed at this time to repatriate some 200,000 Muslim Burmese who had settled across the border.

Internally, there has been migration from the peripheral mountain areas to the central agricultural districts—particularly from the areas of insurgency during periods of fighting. The government is attempting to effect a spatial redistribution by resettling the urban poor from the slums of Mandalay and the capital city of Rangoon to planned satellite towns. □

This Spotlight was prepared by Steven Perry, PRB intern. Thanks also to Margaret Greene, Population Education Assistant, who wrote PT's March 1985 Spotlight on Nevada.



Burmese women market vegetables.

POPULATION TODAY™



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Demographers descend upon Boston. See page 2

PAA Bounds to Boston

"If you like the weather, wait a minute"—so goes the dark version of a salty New England adage. But fortunately, the good weather generally held up as the Population Association of America trekked to the Hub of the Universe Mar. 27-30 for its 1985 meeting.



Except for a late-week touch of rain, Boston skies were blue and sunshiny, and the 1,073 PAA attendees could renew old acquaintances and stroll about the Public Gardens. Most of their three-day meeting time was necessarily spent inside, however, as they delivered and/or heard papers in a record 63 sessions, trolled the corridors, and assessed among themselves the State

of the Population World in the mid-1980s. Notes about some (though hardly all) of the sessions, and much of the goings-on, follow.

Two meetings of specialized population groups customarily precede PAA proper: APLIC and the Psychosocial Workshop.

APLIC: Attendees of the 18th Annual Conference of the Association for Population/Family Planning Libraries and Information Centers-International (APLIC) heard a keynote address by Steven Isaacs, of the Center for Population and Family Health at Columbia University. He gave a comprehensive overview of world population issues, and warned of the dangers both of censorship and the self-censorship that attempts to avoid trouble at all cost. The present climate of apprehension and fear should not, he said, be underestimated.

Other APLIC speakers included Graham Peck of IPPF (London), Don Sawyer of the Universidade Federal de Minas Gerais in Brazil, and Alice Harris, Research Information Specialist with the East-West Center, who reported on the increase in Asian national population centers over the past decade; previously, UNFPA had been virtually the sole source of information for population librarians. Harris stressed the APLIC objective of increased networking between libraries via mini-computers. A population education film festival, which included the excellent film "Our Finite World" (available from UNFPA), wrapped up the APLIC meeting.

Psychosocial Workshop. The 13th pre-PAA Psychosocial Workshop attracted some 70 farflung psychosocialists for two days of lively give-and-take in nine sessions, fortified by chocolate chip muffins for breakfast, fresh fruit for afternoon tea, and a seafood dinner overlooking Boston's spectacular harborfront.

A session on the new reproductive technologies (artificial insemination, in-vitro fertilization, prenatal screening, etc.) raised such issues as: Who are a child's "real" parents, when as many as five persons can now be involved in the genetic/carrying/nurturing process? Will the new technologies be available to the poor? If prenatal screening were to become mandatory (as has been suggested in Congress), would a woman have the right to choose to give birth to a disabled child?

Other sessions focused on natural family planning (now receiving a significant share of U.S. federal family planning research and service funds) and the frustrations of getting contraceptive advertising on TV and into leading newspapers, who profess that their viewers/readers

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Natural Family Planning In 1985: A Status Report

by Jeff Spieler and
Alexandrina Shuler

Methods of family planning based on periodic abstinence (referred to as Natural Family Planning, or NFP), have attracted renewed interest in recent years. NFP methods have been promoted because of the continued importance placed on providing the widest possible range of methods for couples who wish to voluntarily limit or space births. And NFP has found acceptance among some people who find other family planning methods unacceptable for medical or personal reasons.

Couples who use NFP monitor physical signs and symptoms to determine the woman's fertility, and time intercourse accordingly. To prevent pregnancy, a couple must practice abstinence on fertile days.*

The prevalence of NFP use ranges from about 35 percent of contraceptors in Peru, and about 20-25 percent in Haiti, the Philippines, and Sri Lanka, to a mean of about 7.5 percent in 23 other less developed countries (LDCs). Rhythm is still the most widely used NFP method, but survey statistics are relatively imprecise because they do not always separate combined use of NFP with withdrawal or other traditional practices. According to the 1982 National Survey of Family Growth, in the U.S. 4.7 percent of contracepting, formally married women use a method based on periodic abstinence. This figure has remained stable since 1973 while female sterilization has doubled and pill use has declined by about 50 percent.

NFP Methods

Three methods are promoted by most NFP programs: the basal body temperature (BBT) method, the cervical mucus method, and the sympto-thermal method. Modern

NFP methods rely on observing physiological changes associated with ovulation to determine the woman's fertile period, in contrast to the rhythm method, which is based on previous menstrual cycle lengths.

The BBT method is the most quantitative of techniques that can be used at home to detect ovulation. The infertile phase of the cycle is identified by a shift (0.4-1.0 degree Fahrenheit) in temperature from a lower preovulatory level to a higher postovulatory level. When intercourse is restricted to only the postovulatory phase, the method is 94-99 percent effective. When the rhythm method is used in conjunction with BBT to identify the preovulatory infertile days, the method is 80-92 percent effective.

The major disadvantage of the BBT method alone is that abstinence is necessary for the entire preovulatory period and only about 7-13 days are available for intercourse, depending on the cycle length. The BBT method requires thermometers, and the woman must take her temperature every morning before rising and have the skill to plot and interpret her temperature graph. Further, the method is of little use during episodes of fever and periods of anovulation (e.g., during lactation, or around menopause).

The cervical mucus method, frequently referred to as the Billings method (after John and Evelyn Billings, its developers) or the ovulation method, is based on the woman's ability to observe changes in the quality of cervical mucus detected at the vulva. By paying attention to the consistency of the mucus and/or its physical appearance (which change during the menstrual cycle), and following a number of specific rules, the woman can identify the fertile and infertile days of the menstrual cycle.

In a World Health Organization study, 93 percent of the women observed were able to recognize and record cervical mucus changes during the first cycle following instruction by an experienced teacher.

Noteworthy was the fact that illiterate women in LDCs were able to learn the method as quickly as university graduates in the more developed countries. When the rules were followed correctly, which meant abstinence for about 15 days out of a 28-day cycle, the method was 97 percent effective. However, the actual use-effectiveness was only 80 percent, primarily because many couples did not refrain from intercourse during the fertile period.

Continued on page 9

U.S. Teens Lead MDCs In Births, Abortions

American teenagers have, in general, higher rates of pregnancy, abortion, and childbearing than teenagers in virtually all other developed countries, according to a wide-ranging study from the Alan Guttmacher Institute. The U.S. is the only developed country where teenage pregnancy has been increasing in recent years, the study reported.

The pregnancy rate for U.S. women 15-19 years old as of 1981 was 96 per 1,000. By comparison, rates were 45 for England and Wales, 43 for France, 35 for Sweden, and 14 for the Netherlands—half or less than the U.S. rate. The rates of sexual activity of the teenagers in all the countries are, for the most part, similar.

AGI studied birth rates and (where available) abortion rates for 37 developed countries. The U.S.'s abortion rates were again the highest. According to the study, by the time they are 18 years old, 50 of every 1,000 women in the U.S. have had an abortion. By contrast, in the Netherlands, which ranked lowest in abortion use, only 7 of every 1,000 women age 18 had had an abortion.

Overall, the study concludes that the lowest rates of teenage pregnancy were in countries that had liberal attitudes toward sex, had easily accessible contraceptive services for young people (with contraceptives being offered free or at low cost and without parental notifications), and had comprehensive programs in sex education. □

*By definition, the use of withdrawal or barrier (contraceptive) methods during the fertile period is not considered NFP. Combining barrier methods with detection of the fertile period is called the "fertility awareness method" in some public sector programs.

FROM THE EDITOR'S DESK

The "foolish precision" of unnecessary statistical decimals has already been written about (by demographer Ralph Thomson). But what about the foolish precision of digits? Social Security numbers seem reasonable, administratively speaking; out of a possible 1 billion combinations, 290 million have been used during Social Security's first half century—205 million are still active—and it's likely that nine (and no fewer than nine) digits will suffice for many years to come.

But why nine-digit Zip codes (enough to divide the U.S.'s territory into 1 billion tennis-court-sized addresses)? Why nine- and 10- and 13-digit phone numbers (enough to divide the entire world into 10 trillion breakfast nooks)? And why 17-digit Vehicle Identification Numbers (enough to register the car production of 50,000 smog-bound planets for 100,000 years)?

—Art Haupt

SURVEY REPORT

Canada

Results of Canada's first national fertility survey reveal that sterilization is even more popular there than in the U.S., the very low Canadian fertility rate (1.7 births per woman, below the U.S.'s 1.8) may turn up slightly, and cohabitation may be more prevalent than in the U.S.

The survey was recently released to the Canadian press and partially reported at this year's Population Association of America meeting by survey codirector T.R. Balakrishnan. It consisted of telephone interviews, averaging 36 minutes apiece, conducted April-June 1984 with a nationally representative sample of 5,315 women aged 18-49. Of these, 3,238 were currently married, 1,430 never married, and 602 separated,

divorced, or widowed. The study was funded by the Canadian government's Social Sciences and Humanities Research Council.

Sixty-eight percent of the women aged 18-49 were using contraception at the time of the interview (compared to 55 percent of women aged 15-44 interviewed in the U.S. National Survey of Family Growth of 1982); 73 percent of currently married women, 57 percent of the never-married (35 percent in the U.S.), and 69 percent of the separated, divorced, or widowed.

Sterilization was used by 48 percent of contraceptors overall (compared to 33 percent in the 1982 U.S. survey)—35 percent, female sterilization; 13 percent, male sterilization—followed by the pill (28 percent), condom (9 percent), and IUD (8 percent). The pill was used by 41 percent of currently married contraceptors aged 18-29 but only 1 percent of those aged 40-49, 83 percent of whom used sterilization.

Among currently married contraceptors, Catholics were slightly less likely than Protestants to use sterilization (60 versus 64 percent), but more likely to use the pill (16 compared to 14 percent).

The survey also found that women aged 18-24 expected to have 2.25 children on average, slightly more than women aged 30-34 (2.01), suggesting a possible slowing down or slight reversal in the decline in the national fertility rate which has been below the replacement level of 2.1 births per woman since 1972.

Eight and one half percent of the women were living in a "common law relationship" or cohabiting at the time of the interview and 29 percent had done so at some time. Of those aged 25-29, 43 percent had lived with a mate without being married. In an interview Balakrishnan said, "These figures are higher than anything we've seen from the U.S." Of the relationships reported, 39 percent resulted in marriage, 38 percent of the couples broke up, and 20 percent were still living together.

Complete results of the three-year project will be published in the latter part of 1986. □

U.S. Cuts UNFPA Population Aid; China Cited

In keeping with its anti-abortion stance, the Reagan Administration has announced that it is cutting \$10 million of its contribution to the United Nations Fund for Population Activities (UNFPA), indirectly citing reports of compulsory abortion in China as its motivating factor.

The Agency for International Development (AID) said it will contribute \$36 million of the \$46 million Congress appropriated for UNFPA. It said the \$10 million withheld is about the sum the UN agency allocates to China. Reportedly, the UN has given assurances that the \$36 million will be kept in a separate account and not spent in China. Authorization will be sought from Congress to use the \$10 million in other family planning programs abroad.

M. Peter McPherson, the AID administrator, is under attack from both sides: those people in favor of international population programs are distressed with this recent action, and some conservative groups have criticized him for, in addition to some other AID activities, allowing any money to be allocated to UNFPA at all. Indeed, nearly 30 conservative groups have joined in a call for McPherson's resignation. □

Egypt Establishes National Population Policy Panel

Egypt's President Hosni Mubarak announced in January the establishment of a National Population Council to coordinate all population program and policy activities in Egypt.

The new council replaces the Population and Family Planning Board. Dr. Maher Mahran has been named Secretary-General of the Council, and President Mubarak has indicated his intention to serve personally as its chairman. □

Demographics Force Soviets to Begin Inducting Women

For the first time, women may become a part of the Soviet Union's military. Faced with a declining pool of eligible young men, on Mar. 18 the USSR amended its draft law to provide for registration of women age 19-40 with "medical and other specialized training." These women could be required to undergo military training and would be "accepted on a voluntary basis into active military service."

At the root of the Soviets' worries is declining population growth. All able-bodied Soviet men are required to serve two years in the armed forces after leaving high school. In the past, college students could defer their service until graduation. But such deferments have been drastically cut in recent years.

According to Soviet figures, the annual increment to the working age groups in the 1980s is running less than half what it was during the previous decade. Murray Feshbach, demographer and expert on the Soviet Union, was one of those who predicted this situation (see PRB's 1982 *Population Bulletin*, "The Soviet Union: Population Trends and Dilemmas").

The change in the draft law was interpreted by observers as a way to relieve pressures and to meet quota requirements by using women in communication, clerical, and other jobs. The armed forces currently employ women at regular civilian salaries.

Meanwhile, after four years of increasingly successful recruiting, the United States military is also facing the prospect of a drop in the number of 18- to 21-year-old men and women. At present, women make up about 9 percent of the U.S. armed forces, which are now volunteer. But enlistments have fallen off slightly in the past year, along with the proportion of recruits who are high school graduates. The days of numerous, well-qualified potential recruits appear to be over. □

OPINION

by J. William Leasure

The populations of many Third World countries are hungry, unemployed, displaced, and dying. Unbridled population growth compounds this misery. Once again, people are wondering how the birth rates can be reduced in these countries. An examination of the factors that were associated with declining fertility in those countries which now have low or falling birth rates can lend insight into what might precipitate fertility reduction in many developing countries today.

Conventional wisdom holds that industrialization and urbanization reduce fertility by altering attitudes about the desirability of children. History shows, however, that a major factor in fertility reduction has been the challenge to the traditional value structure of Church and Crown, either through military action or social reforms inherent in the development process.

In the U.S., for example, fertility reduction began in the late 18th century, at the time of the American Revolution and long before industrialization and urbanization. England's birth rates began falling in the latter quarter of the 19th century, a time of many political and social reforms, such as a system of elementary public education, the secret ballot, and full manhood suffrage. This was long after the onset of the Industrial Revolution.

How did changes in political and social life lead to birth control? I argue that this growth of autonomy led to a greater sense of control over all aspects of one's personal life, including the reproductive

sphere. This allowed people to act in a manner that furthered their personal and economic well-being. This was true not only of the 18th- and 19th-century Western countries, but can also be seen in developing countries today. Revolution has led to a decline in fertility in Cuba, and can be expected to do the same in Nicaragua. China's post-revolution fertility rates are declining, and India, which has experienced no such jolt to its social structure, must cope with relatively high fertility.

Peaceful social reforms as well as revolutions can contribute to a sense of power and direction resulting in control of reproductive activity. Tunisia, for example, until recently had declining birth rates which accompanied social reforms that emphasized liberation for women from traditional roles. Before Khomeini's revolution in Iran, women's roles were changing and fertility was on the downswing. Algeria and Kuwait, by contrast, both have high birth rates, along with unchanged, traditional customs which subordinate women.

Are there any lessons to be learned from the experience of countries that have succeeded in reducing fertility? It appears to me that a prerequisite for fertility reduction is the growth of political and social freedom for both sexes. The policy for our government, if it wishes to encourage a reduction of fertility in developing countries, should be one that encourages social, economic, and political reforms.

J. William Leasure is Professor, Dept. of Economics, San Diego State University.



The hotel, and some faces at PAA: Paul Demeny, Ansley Coale, Yuan Tien and Leon Bouvier.

Continued from page 2

are "not ready" for such advertising, while at the same time they editorialize on the nation's high rate of teenage pregnancy—which many believe is due in great part to a lack of contraceptive information.

PAA Sessions

Two sessions offered panel discussions involving prominent, and sometimes controversial, population figures. Highlighting "Economic Development and Population Growth" (moderated by PAA president-elect Paul Demeny of the Population Council) were the conflicting opinions of the World Bank's Nancy Birdsall (who sat in for the absent D. Gale Johnson of the University of Chicago) and pro-growth advocate Julian Simon of the University of Maryland.

Simon reiterated his conviction that all the hard data indicate that population growth is economically beneficial ("You can fly over Hong Kong today...") and stated that the popular media ignore this viewpoint in favor of doomsayers such as Lester Brown of the Worldwatch Institute and Werner Fornos of the Population Institute. Simon claims that population growth has no observable negative effect on the environment, and he finds no scientific evidence to the contrary.

Birdsall pointed out that the World Bank, in its 1984 *World Development Report* which featured population and economic development, did not in fact examine the question of a balance between population and resources, but rather the consequences of rapid population growth in social terms. The World Bank concluded that rapid population growth may slow economic growth not directly, but by burdening social and political systems.

Another panelist, the University of Southern California's Richard Easterlin, discussed family planning, saying that programs which go "beyond family planning" (incentives, for exam-

ple) unfairly penalize the poor, and that reduced infant mortality can be more effective than family planning programs for reducing fertility. Historian Charles Tilly of the New School for Social Research rounded out the panel. In what little time was available for audience input, Ronald Freedman of the University of Michigan charged Simon with hanging around with "crazies," pointing out that the "doomsayers" Simon cited do not represent the views of the mainstream of the PAA membership.

Another major panel discussion was entitled "The 1984 World Population Conference and Its Implications." Panelists Rafael M. Salas of the UNFPA, Fred T. Sai of the World Bank, Sheldon Segal, the Rockefeller Foundation, and Steven Sinding, director of the Office of Population at the Agency for International Development (AID), sang familiar tunes. The first three linked the lowering of population growth with economic development, emphasizing countries' sovereignty in setting population policy and in deciding moral questions. Sinding, speaking for the Reagan Administration, declined to comment on the U.S. position in Mexico City but reiterated AID's position that it will no longer contribute to organizations that support abortion, indicating that AID Administrator M. Peter McPherson was still reviewing the contribution to UNFPA (which was indeed reduced, see article on page 4).

Getting back to U.S. population issues, the Census Bureau's William Butz, Kirk Wolter, and Constance Citro, as well as Charles Nam of Florida State University, participated in a well-received panel discussion on the 1990 Census. How to adjust the 1990 Census for undercount was discussed at length. The effects, as well as the cost, of such an adjustment and comparability to past censuses are important aspects of the issue. The question of census content was also examined. Nam criticized the Bureau for its

preoccupation with continuity, declaring that 1990 should be a turning point. Finally, the Census Bureau officials encouraged the public's input regarding questions to appear on the census, saying that individuals should write the Director of the Census Bureau in support of specific questions.

Cohabitation was a relatively hot topic this year. Ann Blanc of Princeton University reported that data from the 1977 Norwegian Fertility Survey and 1981 Women in Sweden Survey reveal that in these countries, "Cohabitation is no longer an alternative life style." Swedish women, for example, are ten times more likely to cohabit than marry for their second union, and in both countries the majority of the large proportion of women who end a first union (marriage or cohabitation) enter a second union within five years.

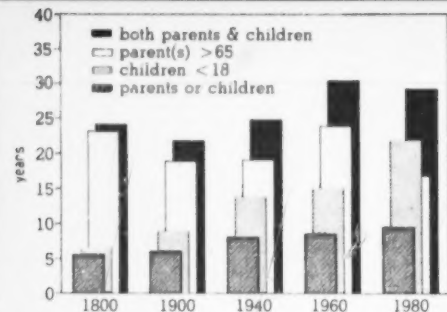
In "The Feminization of Poverty" session, a consensus was reached among the papers given that being a single parent comes with severe economic consequences. It was noted that female-headed households became less poor over the last decade, but the proportion of families headed by single females increased. Stricter enforcement of child-support awards was recommended. In addition, the discussant, Paul Culligan of the Congressional Budget Office, said the feminization of poverty could be reduced by improved education and training for women, affirmative action, and issues of comparable worth.

In "What Have We Learned from the WFS [World Fertility Survey] That Is Relevant to Future Research on Fertility?" it was agreed that the WFS was a major administrative and theoretical achievement. However, discussant Charles Westoff of Princeton University argued that it is the diffusion of new ideas, aspirations, and norms—not macroeconomics—that

Continued on next page



President Jane Menken addressing PAA on years of responsibility to dependents (chart).



Continued from preceding page

brings about fertility change. To measure such diffusions, Westoff, John Casterline (Brown University), and Jack Caldwell (Australian National University) urged more intensive surveys at the household level to ferret out "the family context in which reproductive decisions take place," as Caldwell put it. Contraceptive-use data (needed by policymakers) can be measured in cost-effective prevalence surveys, like those planned as a part of the 35 country surveys now under way in the Demographic and Health Surveys project.

Why people work in non-day shifts was examined in Harriet Presser's paper given at the "Marriage, Childbearing, and Labor Force Participation" session. Using data from the Current Population Survey, Presser (of the University of Maryland) looked at sex-specific participation rates of those working non-day shifts by industry. Though formerly it was assumed that the work schedule is irrelevant, Presser found that couples with children are more likely to be shiftworkers than those without, in order to split childcare responsibilities.

The annual breakfast meeting of PAA's Committees on State and Local Demography and Business Demography provided an opportunity for review of their ongoing activities and continued discussion of future collaboration between these two up-and-coming groups. The pros and cons of referring to their joint efforts as "applied demography" were debated, and it was agreed that their jointly sponsored newsletter would bear that label. There was also great enthusiasm for the Panel on Demographic Careers in Non-Academic Organizations that the two committees sponsored, with many members urging that another like it be organized for PAA's 1986 meeting. It was noted that recently much of the increase in PAA membership has come from outside of

academia, and also that since many of these new members work for corporations with grant programs, it should be possible for the committees to attract additional financial support for their activities from corporate donors.

Friday afternoon offered luncheon roundtables for those participants willing to pay an extra \$13 with their registration fee. In Ohio State University's H. Yuan Tien's roundtable on Chinese population issues, Tien talked of the unmanageably large quantities of data now coming out of China, and emphasized the regional differences in Chinese data which result both from varied cultural characteristics and from the administration and success of family planning programs in different areas.

Getting Down to PAA Business

At the PAA business meeting, Michael S. Teitelbaum, chairman of the Public Affairs Committee, reported on "two serious threats" to funding for population research that have materialized in the last year or so.

The first threat is to funding of population research. To save money in upcoming years, the U.S. Office of Management and Budget wants to keep National Institutes of Health research grants at around \$,000, although Congress had instructed the agency to fund 6,500. This will affect population grants coming from NICHD, which is part of NIH. On behalf of the committee, Teitelbaum had sign-up sheets passed out through the audience so that PAA members could be called upon to contact their Members of Congress when necessary.

Threat #2 was the string being tied to Agency for International Development research, stipulating that researchers certify that no funds received by them would go to foreign organizations that conduct or promote abortion. The request for such a signed statement from demographers was seen as a constraint on academic

freedom.

In other business, the foreign subscription price of *Demography* was dropped (to \$17 annually) to increase subscriptions from other countries. There was a call for childcare service at future PAA meetings, and Ed Bisgyer, recently retired as managing director of the American Statistical Association (ASA), was honored with a plaque for his 18 years (1966-1984) of service as PAA business manager.

Friday night's Presidential Address was preceded by the annual awards ceremony. The Dorothy S. Thomas award for the best paper by a graduate student on migration or on demographic-social-economic interrelations was shared by two recipients this year: Sherrie Kossoudji of the University of North Carolina was recognized for her paper on immigrant assimilation into the U.S. economy, and Insan Tunali, a PhD candidate at the University of Wisconsin and Associate Professor of Economics at Cornell University, was honored for his paper entitled "Migration and Earnings: From Theory to Fact."

Ronald Freedman presented the Irene Taeuber award for excellence in demographic research to Jack Caldwell, Department Chairman and Professor of Demography at the Australian National University's Research School of Social Sciences, Institute of Demographic Training. Freedman described Caldwell as "one of the most important people in [demographic] intellectual influence."

In the annual Presidential Address, PAA President Jane Menken analyzed two topics, both relating especially to women: infertility and the changing size of successive generations of mothers, daughters, and granddaughters. Menken recognized that infertility is a legitimate concern which appears more widespread today, but maintained that today's popular fear about infertility is exaggerated.

Continued on next page



Balloons at a party.



PRB's booth.



The "70 and Overs."

Continued from preceding page

Since fewer women are interested in bearing children, and unwanted fertility has been significantly reduced, the problems of infertility seem all the more prominent. In addition, problems of infertility have gained the increasing attention of physicians.

Menken stated that current medical practice leads to exaggerated diagnoses of infertility. Commonly, couples are considered infertile if they are not able to conceive after only one year of trying. Often babies are conceived after this time limit. Menken warned young women to have their fertility checked out early, so that potential fertility problems can be identified and taken into consideration.

In the second part of her speech, Menken discussed the effects of the current age structure on dependency. As a result of longer life expectancies and delayed childbearing, a relatively high proportion of people can expect to have their parents and children dependent on them simultaneously. (See graph, page 7.) Fear of infertility, however, may result in less delayed childbearing and thus higher fertility.

Themes?

Despite the difficulty of singling out particular themes and portents at such a large meeting, some recurrent trends were noticed: a suspicion of model building and a recognition of limits to simulation ("For every simulation, there is an equal and opposite dissimulation"—attributed to Paul David). A similar distrust of averages per se seemed to abound, with greater recognition of the importance of accounting for the effects of diversity and heterogeneity in making generalizations about populations.

Micro-analysis of demographic trends seemed to be gaining momentum ("the Caldwellian approach," after Jack Caldwell). And there was

growing interest in the importance of looking beyond the nuclear family as a residentially based unit, to the extended family (e.g., in support systems for the aged).

Marriage patterns, family structure, and household composition occupied a major part of the 1985 program, though they were comparatively rare themes for PAA sessions a decade ago. No fewer than 10 of this year's 63 regular sessions, along with the presidential address, and several luncheon roundtable sessions touched on these topics in one way or another with such session titles as "Living Arrangements and Household Structure in LDCs" and "Intra-Family Resource Allocation."

In addition, the changing age structure and composition of U.S. households has sparked a growing interest in family demography, along with the analytical interest in households generated by the so-called "new home economics" and the increased emphasis on household and family demography by social demographers. Ten years ago in Seattle, out of 29 sessions there was one on "the family," along with two others on women's status, work, and fertility.

Hub Sidebars

"Faded glory" was one participant's description of the meeting's hotel. Although well run and in the midst of a remodeling, the Park Plaza seemed cramped and not particularly cheery to many, especially compared to PAA sites in previous years. The lighting was dim, and audibility in some meeting rooms, not to mention heating/ventilation, left much to be desired.

As the host city, Boston had plenty to offer, especially to seafood aficionados. A plethora of seafood restaurants kept their share of PAA goers in lobster bibles.

Perhaps it was the site, perhaps the year (the year of funding dangerously), but PAA's atmosphere was a bit

subdued this time around. Apparently in keeping with the national trend toward limiting alcohol consumption, not only did the Wednesday night beer mixer run out of liquid refreshment, but so, incredibly, did the Texas party.

Dudley Kirk (Stanford University) hosted a second dinner gathering of PAA's distinguished "70 and overs." Present with Kirk were: Paul Glick, Ed Hutchinson, Eleanor Isbell, Abe Jaffe, Henry and Pauline Shryock, Elbridge Sibley, Conrad and Dorothy Taeuber, and Vincent Whitney. (See photo.) Kingsley Davis, though eligible and in Boston, did not attend the dinner, protesting "age stratification."

By mid-morning Saturday, the wind outside was gusting in a truly March way, and everyone else was blown out, as the last few sessions ran on and attendees began to trickle away, headed for Logan Airport and all points of the compass. It's a truism by now that demography has come of age; at the "70 and overs" dinner there was actually some exultation about the old days, when "we did it all with arithmetic!"

In 1986 PAA will meet in San Francisco. □

—compiled by Janine Adams, Anthony Agresta, Leon F. Bouvier, Alexander von Cube, Alice T. Day, Margaret E. Greene, Arthur Haupt, Tom Merrick, Keiko Osaki, Jean van der Tak.

Continued from page 3

Other studies of the cervical mucus method have shown use-effectiveness rates ranging from 65-94 percent.

There are a number of advantages to the cervical mucus method. For example, it can be used despite irregular ovulation and it enables couples to recognize both the pre- and postovulatory infertile phases of the menstrual cycle. While during the learning phase (about three cycles) abstinence is required during about half the days in each cycle, some experienced users have modified the method so that abstinence is required for only about one-third cycle.

The sympto-thermal method predicts ovulation by combining the BBT method with the cervical mucus method, monitoring of other bodily changes, and rhythm calculations. With this approach, if a woman cannot clearly interpret one sign she can double check her interpretation with another. Some studies indicate that multiple-indices methods may be somewhat more effective than single "index" methods. But the method may prove to be too complicated for many people.

Looking to the Future

NFP's advantages include its lack of physical side effects, use of non-physicians as instructors, and

educational value. However, many couples do not use NFP and many family planning providers do not offer it. Reasons include lower-than-desired effectiveness, and many people's fixed opinion that NFP methods must be unacceptable or too difficult to learn/use (especially by the LDC target populations), that the cost of providing intensive NFP educational services must be prohibitive, and that the demand for NFP is not large enough to warrant its inclusion in programs.

More research is required to address these issues so that decisions about using or providing NFP are based more on fact than on opinion. The Agency for International Development (AID) is the largest single donor in the field of NFP. Worldwide, NFP-related projects are being conducted under 22 AID contracts and grants, as well as AID bilateral programs in 16 countries. Workshops are being held; training and information materials are being created; operations research projects are investigating service variables and cost-effectiveness; and biomedical research projects are working at improving existing methods, working out new methods, and filling gaps in knowledge. Over the next few years, much more should be known about the advantages, disadvantages, and factors

affecting the demand, choice, and successful use of NFP. □

Jeff Spieler and Alexandrina Shuler are with the U.S. Agency for International Development; Spieler, in the Research Division, Office of Population, and Shuler, on the Publications and Information Staff in the Bureau for Science and Technology.

Roman Catholics Promote NFP

Notable among various natural family planning (NFP) programs in the U.S. is one established by the National Conference of Catholic Bishops, which in November 1981 created a Diocesan Development Program for Natural Family Planning.

During the past three years, this program's primary goal has been to assist each diocese in initiating or expanding an NFP program, and to (in the words of its report) conduct "a broader, more decisive, and more systematic effort to make the natural methods of regulating fertility known, respected, and applied."

Some 164 dioceses (as of the end of 1984) have appointed a diocesan NFP coordinator. The Development Program itself, located at Seton Hall University, is now into its second phase of activity, in which it continues to work with dioceses, while assisting interested Catholic hospitals, and consulting with other NFP providers. □

Population Update

Estimated United States Population:

As of December 1, 1984	237,669,000
As of December 1, 1983	235,515,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Projection Reports*, Series P-25.

Estimated World Population:

As of May 1985	4,831,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1985 population given on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: 1984 Summary

Item	12 months ending with December					
	Number			Rate		
	1984	1983	1984	1983	1982	1981
Live births	3,697,000	3,614,000	15.7	15.3	16.0	15.9
Deaths	2,047,000	2,010,000	8.7	8.6	8.6	8.7
Natural increase	1,650,000	1,604,000	7.0	6.9	7.4	7.2
Marriages	2,487,000	2,444,000	10.5	10.5	10.8	10.6
Divorces	1,155,000	1,179,000	4.9	5.0	5.1	5.3
Infant deaths	39,200	39,400	10.6	10.9	11.2	11.7
Population base (in millions)	...	...	236.1	233.7	231.5	229.3

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source: *Monthly Vital Statistics Report* (Vol. 33, No. 12) from the National Center for Health Statistics.

NEW FROM PRB

Back by popular demand is the teaching module, "World Population: Toward the Next Century." Originally written in 1981 by Elaine M. Murphy, the 16-page module has been updated with new data and resources. It covers the history of world population change and growth, the current picture and future trends. Four centerfold pages feature the 1985 World Population Data Sheet, and a glossary lists important population terms. Exercises at the end are presented in reproducible worksheet format.

Copies of "World Population: Toward the Next Century" are available at the following prices: single copy \$2.00; two or more copies \$1.75. Orders under \$20.00 must be prepaid with a \$1.00 shipping/handling fee included. Send all orders to PRB, P.O. Box 35012, Washington, D.C. 20013.

SOFTWHERE

Demographers discovered some time ago that microcomputers offer wide applications, often with greater flexibility and lower cost than larger computers. Spreadsheet packages such as VisiCalc, SuperCalc, and Lotus 1-2-3 have proved invaluable for population projections, life tables, data entry, and editing (PRB's 1985 *World Population Data Sheet* is now assembled on a spreadsheet).

At last month's PAA meeting (see page 2), a lively, well attended panel session covered innovative and appropriate uses of micros. The Census Bureau is designing software for country level population estimates and considering direct phone transfer of data to micro users. The Bureau as well as the University of Chicago and the Westinghouse Population Group have established electronic bulletin boards for demographers with micros. □

PT readers wishing to share population related software, spreadsheet applications, or other personal-computer solutions (or software needs, for that matter) can list them in PT will print problems and solution gratis on a space-available basis, without endorsing the claims therein. Write to: "Softwhere," *Population Today*, 2213 M St. N.W., Washington, D.C. 20037.

TAKE A NUMBER...

Some Hispanic Confusion: The Census Bureau has released a report, *Persons of Spanish Origin in the United States: March 1982*, which contains a complete profile of that population. However, one caution about the numbers of Hispanics in the U.S. is in order: The total Hispanic population shown in most of the tables is 14.0 million for 1982 while the 1980 Census counted 14.6. How can this be? The report is based upon the Bureau's Current Population Survey (CPS), whose sample is still based on the 1970 Census (it takes quite a while to develop the CPS's complex sample and one based on the 1980 Census will soon be ready). It appears that the 1980 Census did a much better job counting the Hispanic population and the number shown in the CPS will most certainly rise when the 1980 Census-based sample is used. In 1982, the Bureau estimated the Hispanic population at 15.4 million, based on estimates of births and deaths and immigration data. The CPS numbers are still, of course, essential for measuring the social and economic status of

Hispanics and are not really intended to "count" populations.

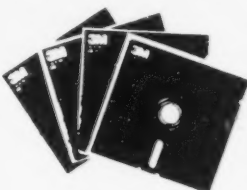
A Passage to India: Moviegoers have been most impressed by filmmaker David Lean's painstaking recreation of another exotic world. An interesting sidelight: India's population at the time of the story was "only" about 260 million (as of 1925)—not counting the areas that became Pakistan (an additional 22 million) and Bangladesh (an additional 34 million). Now, 60 years later, the respective populations are 762 million, 99 million, and 101 million—a threefold increase in 60 years.

Here and There... the Census Bureau reports that in 1981 about 47 percent of divorced mothers did not receive child support payments due them... also from Census, about 1 in 5 children in the U.S. lived below the poverty line in 1983... although it is obvious that rural to urban migration is a major contributor to city growth in less developed countries, natural increase is also a very important factor. Mexico City's past growth was only one-third due to migration with the rest accounted for by the birth rate...

...addenda

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Pong 2000	CALL!

and...introducing the first computer good enough to be called...HAL.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

NEW CONCEPTIONS: A Consumer's Guide to the Newest Infertility Treatment, Including In Vitro Fertilization, Artificial Insemination, and Surrogate Motherhood. by Lori B. Andrews. New York: St. Martin's Press, 1983. 326 pages. \$14.95 ISBN 0-312-56610

Written by a lawyer/journalist, this book objectively evaluates all the newest infertility treatments. The medical, legal, emotional, and financial considerations are described in depth in lay terms. Written for the consumer, the book fills the information gap between medical journal articles and daytime talk shows.

Among the topics discussed are the treatments that allow normal conception, the pros and cons of the new techniques, how to compute the costs and understand the procedures, and the legal and ethical ramifications of the procedures.

An extensive bibliography and appendix provide a list of centers performing the various techniques as well as examples of legal cases and other resources on these topics. The book is a good resource both for infertile couples who want to become parents and for those who counsel them.

—Janine Adams

INFLATION AND THE ECONOMIC WELL-BEING OF THE ELDERLY. by Robert L. Clark, George L. Maddox, Ronald A. Schrimper, and Daniel A. Sumner. Baltimore, Md.: Johns Hopkins University Press, 1984. 140 pages. \$18.50. ISBN 0-8018-3218-7

The authors of this clearly argued, informative book (three professors of economics and business, and one of sociology and medical sociology) have analyzed government surveys, such as the Consumer Expenditure Survey, to determine shifts in the real income and consumption patterns of the aged, and how older people's sources of income responded to rising prices during the 1970s. Because a substantial portion of older people's income comes from government transfers, the effects of inflation on real income and economic well-being of the aged have important policy implications.

The authors find that the aged are no more vulnerable to inflation than are other age groups. Contrary to conventional wisdom, the elderly's major sources of income (i.e., earnings, social security benefits, pensions, federal transfer pro-

grams, and returns on assets) are not fixed but rise with price increases.

However, the authors stress the importance of inflation protection provided to older people over the last decade through federal programs, and acknowledge that reducing or eliminating the automatic increase of social security benefits could substantially alter the well-being of the elderly achieved during the 1970s.

—Alice T. Day

POPULATION POLICIES IN ASIAN COUNTRIES: CONTEMPORARY TARGETS, MEASURES AND EFFECTS. by Hermann Schubnell et al. Hong Kong: Drager Foundation, Federal Republic of Germany and Centre of Asian Studies, Univ. of Hong Kong, 1984. 681 pages. HK\$180. ISSN 0378-2689.

This large collection of papers contains up-to-date, first-hand material on the state of the art of population policies in Asian countries. The papers were contributed by participants at a Symposium held at the Center for Asian Studies, Hong Kong, January 1984.

Reflecting the eclectic interests of a diverse gathering, the papers cover a broad range of topics. Among the major themes noted in Lincoln Day's summary of the proceedings were: the need for more (and more accurate) data; the paucity of theory with which to study and account for demographic behavior; the importance of recognizing the diversity of subgroups within populations; changes to be anticipated with the aging of Asian populations; and male/female differentials, particularly with respect to geographic mobility, labor force participation, and the consequences of longer life span for social support.

The papers present fresh data and provocative perspectives: there is a gold mine of material here for the student, layperson or academic with a yen to know about the challenge of population in Asia.

—Alice T. Day

PUBLICATIONS RECEIVED

DETERMINANTS OF REGIONAL VARIATIONS IN INFANT MORTALITY IN RURAL INDIA. by Anuridh K. Jain. New York: Population Council (Working Paper No. 20), 1984. 37 pages.

ESTIMATES AND PROJECTIONS OF URBAN, RURAL AND CITY POPULATIONS, 1950-2025: The 1982 Assessment. Dept. of International Economic and Social Affairs. New York: United Nations, 1985. 148 pages.

L'ÉVALUATION DES EFFECTIFS DE LA POPULATION DES PAYS AFRICAINS. Tome II. Groupe de Démographie Africaine. Paris: IDPINED-INSEE-MINCOOP-ORSTOM, 1984. 423 pages.

THE FAR EAST AND AUSTRALASIA 1984-85. Europa Publications Limited. Detroit, Mich.: Gale Research, 1984. 945 pages. \$140.00.

GETTING TOUGH: Public Policy and the Management of Pesticide Resistance. by Michael Dover and Brian Croft. Washington, D.C.: World Resources Institute, 1984. 80 pages.

HOUSING & URBAN DEVELOPMENT IN THE USSR. by Gregory D. Andruss. Albany, NY: State University of New York Press, 1984. 354 pages. \$14.95.

METROPOLITAN STATISTICAL AREAS: 1980 Census of Population (as defined by the Office of Management and Budget in 1983). U.S. Bureau of the Census, 1984.

THE MIDDLE EAST AND NORTH AFRICA 1984-85. Europa Publications Limited. Detroit, Mich.: Gale Research, 1984. 801 pages. \$120.00.

POLITICAL-MILITARY APPLICATIONS OF BAYESIAN ANALYSIS: Methodological Issues. by Douglas E. Hunter. Boulder, Colo.: Westview Press, 1984. 293 pages. \$22.50.

POPULATION AND RELATED ORGANIZATIONS: International Address List, by the Association for Population/Family Planning Libraries and Information Centers-International (APLIC). Chapel Hill, N.C.: Carolina Population Center Library, 87 pages. \$45.00.

POPULATION, ENVIRONMENT AND RESOURCES, AND THIRD WORLD DEVELOPMENT. edited by Pradip K. Ghosh. Westport, Conn.: Greenwood Press, 634 pages.

POPULATION, RESOURCES, ENVIRONMENT AND DEVELOPMENT. International Conference on Population, 1984. Proceedings of the Expert Group on Population Resources, Environment and Development. Geneva, 25-29 April, 1983. New York: United Nations, 1984. ST/ESA/SER.A/90/. 534 pages.

REPORT OF THE WORLD FOOD COUNCIL ON THE WORK OF ITS TENTH SESSION: 11-15 June, 1984, by the General Assembly (Official Records: 39th session). New York: United Nations, 1984. 43 pages.

REPUBLICA DOMINICANA: Encuesta Nacional de Prevalencia del Uso de Anticonceptivos - Mujeres. (Dominican Republic CPS), by Consejo Nacional de Poblacion y Familia. Columbia, Md.: Westinghouse Health Systems, 1983-1984. 187 pages.

SEX EDUCATION AND FAMILY PLANNING SERVICES FOR ADOLESCENTS IN LATIN AMERICA: The Example of El Camino in Guatemala. Prepared by The Pathfinder Fund. Working Papers No. 2. Chestnut Hill, Mass. 1985. 46 pages.

SUCCESS OR FAILURE? Family Planning Programs in the Third World. by Donald J. Hernandez. Westport, Conn.: Greenwood Press, 1985. \$29.95.

SPOTLIGHT

COSTA RICA

Population (1985, est.): 2.6 million
Capital: San Jose
Percent Urban (1982): 48
Births per 1,000 pop. (1982): 30.7
Deaths per 1,000 pop. (1982): 3.9
Infant Mortality Rate (1982): 19.3 infant deaths per 1,000 live births
Rate of Natural Increase (1982): 2.7 percent
Area: 19,600 sq. miles (a little larger than West Virginia)
Major exports (1983): Coffee, bananas, beef, sugar cane, cacao—US\$871 million
Major imports (1983): manufactures, machinery, transport equip., chemicals, fuels, foodstuffs, fertilizer—US\$870 million
GNP per capita (1983): US\$1,020

Costa Rica, a Central American country bordering Nicaragua and Panama, can provide insight into the dynamics of fertility decline in developing nations. The country is unusual in Latin America in that nearly all of its population is of European descent, predominantly Spanish, but also composed of some Germans, Dutch, and Swiss. Indigenous Indians number only about 20,000—fewer than the number present when the Spanish landed in 1522.

Unlike many Latin American countries, Costa Rica has enjoyed a long period of democratic government with smooth transitions of power. There is no standing army, although a small civil guard does exist. Rugged mountains, intersected by many streams, are a principal geographic feature; there are plains on both coasts with the wider of the two on the Caribbean side.

Until recently, the country has enjoyed a strong economy. However, sharp drops in coffee prices, along with increases in imported fuel costs, caused a steep climb in the country's trade deficit. By 1982, the public sector debt had risen to US\$3 billion. At the same time, unemployment rose and per-

sonal income fell by about one-third. Although the situation is improving, the world economic slowdown has left its mark on Costa Rica as it has elsewhere. Recent friction with Nicaragua and the activities of anti-Nicaraguan *contras* also indicate a deterioration of Costa Rica's position as a tranquil "oasis" in Central America.

In assessing Costa Rica's demography, the decline in fertility is noteworthy. From a total fertility rate (TFR) of about 7 children per woman in the late 1950s, the country's fertility has now dropped to just below 4 in the mid-1970s. For Costa Rica, whose government's financial support of family planning is weak, this decrease is considered good. Although family planning is recognized by the government as a legitimate component of maternal and child health programs, much of the fertility reduction has been due to the efforts of private groups, particularly the Costa Rica Demographic Association.

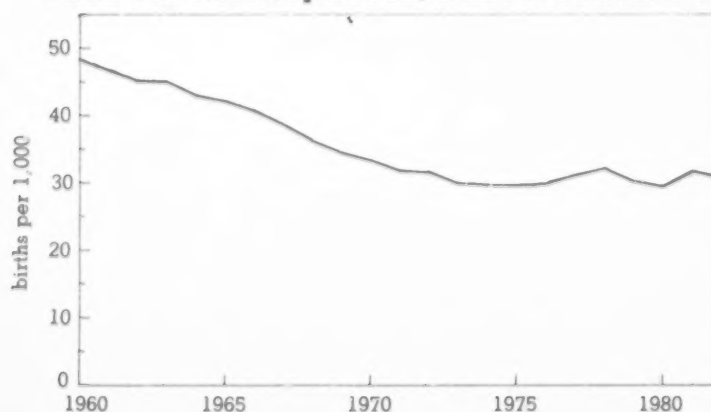
This fertility decline, however, has apparently ended. By the latter half of the 1970s, the rate stabilized at just below 4 (see graph). As a result of this stabilization, coupled with slow decreases in the death rate, the population growth rate stands just about where it did in 1970.

All in all, about two thirds of Costa Rican women use some form of birth control. This figure, reached in 1976, is virtually identical to that of many developed countries where women average under 2 children each. The reason for the higher actual fertility in Costa Rica would simply appear to be that desired family size is still about 4 children and that contraception allows women to limit their fertility to that level.

This situation is especially interesting in light of the fact that population projections for countries are often prepared with the assumption that, once a fertility decline has begun, there will be a fairly regular decrease to the two-child family required to slow and eventually end population growth. This approach to the two-child family appears to have stalled out in Costa Rica. While it may be expected that the TFR will ultimately decline to about 2.0 at some point in the future, the timing of that decline can have a large impact on the country's ultimate population size. The coming fertility trends in Costa Rica may provide clues to future patterns of fertility decline elsewhere. □

This Spotlight was prepared by Carl Haub, PRB's Director of Demographic Analysis and Public Information, and Janine Adams, Associate Editor of PT.

Births Per 1,000 Population; Costa Rica 1960-1982



POPULATION TODAY



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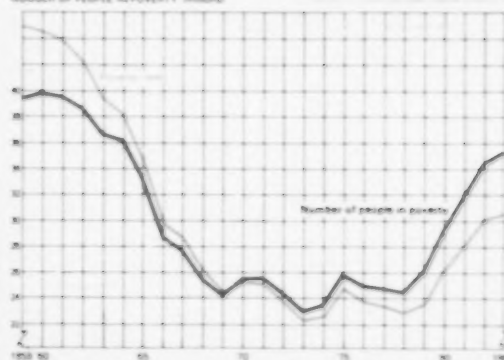
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NUMBER OF PEOPLE IN POVERTY (millions)



Number of poor and poverty rate in the U.S., 1959-1983. See page 2.

New Patterns of U.S. Poverty

Some 35.3 million Americans lived below the official poverty line in 1983, 15.2 percent of the total population, according to the latest Census Bureau data. These figures were the highest since the mid-1960s when Lyndon Johnson launched the War on Poverty, reports William O'Hare, Senior Research Associate with the Washington, D.C.-based Joint Center for Political Studies, in PRB's June 1985 *Bulletin*, "Poverty in America: Trends and New Patterns."



Public assistance programs have been most successful in reducing the elderly's poverty.

That war was expected to reduce poverty with a barrage of stepped-up cash and noncash assistance through both existing programs (Aid to Families with Dependent Children (AFDC), Social Security, subsidized housing and school lunches) and new programs (food stamps, Medicaid and Medicare, Job Corps, Community Action, etc.). That poverty figures are again as high as in the mid-1960s has led many to believe that billions of antipoverty

dollars have been wasted in the last 20 years, says O'Hare.

Charles Murray, current leading exponent of this view, argues in his much-publicized 1984 book, *Losing Ground*, that among blacks in particular, the increased government assistance unwittingly undermined the work ethic and encouraged female-headed families, the most likely to be poor. O'Hare adds, however, that others blame the poverty rise of the early 1980s on Reagan Administration cuts of \$57 billion in federal funding of poverty programs between 1981 and 1984.

The Economic Link to the Poor

In O'Hare's view, changes in social welfare policy have had little to do with poverty trends among the nonelderly over the past quarter century. Much more important is the state of the nation's economic health.

The numbers in poverty plunged during the booming 1960s and early 1970s—from 39.5 million, 22.4 percent of the population, in 1959 (the first year poverty was officially measured) to a low of 23 million, just 11.1 percent of the population, in 1973. The figures fluctuated along with the recession-pocked economy in the next five years and then turned sharply upward. Most of the 1978-1983 rise was accounted for by the "new poor," O'Hare says. Poverty increased rapidly for younger adults of working age and scarcely at all for the retired elderly, and rose more for male-headed than female-headed families and more for whites than blacks. These groups were hit hard by the deep recession and unemployment of the early 1980s. With the economic recovery in 1984, O'Hare expects the poverty rate for 1984 (due for release in late summer 1985) to be lower than 1983's 15.2 percent.

He agrees that the Reagan budget cuts have "made life much more difficult for the poor" and may have added upwards of a million to the poverty population. But "this does not explain why the poor increased by nearly 11 million between 1978 and 1983 and why the

Continued on page 8

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PRB MEMBERSHIP

In addition to **POPULATION TODAY**, PRB members receive annually four in-depth **POPULATION BULLETINS**, two wall charts (the **WORLD** and **UNITED STATES POPULATION DATA SHEETS**), the quarterly population education newsletter, **INTERCHANGE**, with two accompanying teaching modules, and **POPULATION TRENDS** and **PUBLIC POLICY** papers as they appear.

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Library/nonprofit organizations	\$0	65
Other organizations	250	315

**Educators and students should send supporting documentation.

Population Growth to Create New Array of LDC Mega-Cities

The future holds a world of congested mega-cities that will house over 15 percent of the earth's population, according to revised UN data contained in *Estimates and Projections of Urban, Rural and City Populations, 1950-2025: the 1982 Assessment*.

According to these projections, which in many cases use new data from the 1980 round of national censuses, by 2025 there will be 135 mega-cities (PT's term for cities with 4 million or more residents); and these cities will possess an average population of about 9 million (larger than today's Beijing). In 1980 there were only 35 such agglomerations.

At the same time, the share of the earth's urban population housed in cities of fewer than 1 million will decline, from 66 percent in 1980 to a projected 57 percent in 2025.*

Urban growth accounts for an ever-increasing proportion of the world's total population growth. Between 1950 and 1975, 53 percent of total growth occurred in urban areas. That share is projected to be 68 percent for 1975-2000. During the period 2000-2025, the entire increase in the world's total population will take place in urban areas, with rural populations beginning to decline in absolute numbers after 2010 for the first time in history.

*The definition of "urban" varies from country to country, and the UN accepts the definition of the term as used in the country's census or survey. In an appendix, *Estimates and Projections* lists each country's definition of urban.



Panama City — part of the Third World's urbanization trend.

In 1950 the world's population was overwhelmingly rural, with only 29 percent of the population living in urban areas. By 1980 that figure was 40, and sometime after the turn of the century it will pass the 50-percent mark. It is projected to reach 62 percent by 2025.

Not surprisingly, the less developed countries (LDCs) will bear the brunt of this urban increase. Sometime between 1970 and 1975 the LDCs surpassed the more developed countries (MDCs) in terms of numbers of urban dwellers, so that in 1980 the LDCs contained 54.8 percent of the world's urban population, and 75 percent of the total population. In 2025, 77 percent of the earth's urban population as well as 83 percent of its total population will be found in the developing countries.

Historically the LDCs have been far less urban than the MDCs. As shown above, the number of urban residents

in the Third World is larger than in the developed countries, but levels of urbanization are higher in MDCs when percentages are examined. However, this gap is narrowing. Whereas in 1980 29 percent of the LDCs and 71 percent of MDCs were considered urban, the LDCs in 2025 are projected to be 58 percent urban, compared to the MDCs' 85 percent urban.

Estimates and Projections divides the world's cities into three categories: those of 4 million or more, those with populations of 1 to 4 million, and those of under 1 million.

In 1980, roughly 281 million people around the world lived in cities of 4 million or more. In 2025, there will be more than 1.2 billion people living in these agglomerations, and 88 percent of them will live in the developing world. These mega-urban dwellers will then constitute 28 percent of the urban population of the developing world (2½ times the proportion observed in 1950).

The number of cities in the 1-4 million category is projected to increase steadily, from 1980's 187 to 2025's 504. However, the average size of these cities will remain relatively stable, rising from 1.7 million in 1980 to 1.9 million in 2025. The share of the urban population living in these medium-range cities will reach its peak of 20.9 percent at the end of this century, when it is expected to fall slightly, so that in 2025, cities of 1-4 million will account for 19 percent of the world's urban population (12 percent of the total population, or roughly 965 million people). □

ANNOUNCEMENT

PRB has simplified its membership structure.

In response to member feedback, PRB has changed its system so that all members will receive all PRB publications. As a result, each member will receive over 25 publications per year, including the widely praised *Population Trends and Public Policy* series, which previously had been a separate purchase item. The new fee schedule will apply immediately to new members, and will become effective for all members starting Jan. 1, 1986.

All members will now have the same status and receive the same, expanded series of publications:

- four *Population Bulletins*
- the *World Population Data Sheet* (issued in the spring)
- The *United States Population Data Sheet* (issued in the fall)
- 11 issues of *Population Today*
- four issues of *Interchange* and two accompanying modules
- *Population Trends and Public Policy* papers as they appear

The membership fee schedule is now as follows (educators and students receive discounts as shown):

	In the U.S.		Outside the U.S.
	1 year	3 years*	1 year
Individual	\$40	\$100	\$50
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*The three-year rate provides a discount amounting to six months free!

**Educators and students should send supporting documentation.

FROM THE EDITOR'S DESK

Is there in demography no humor? *PT's* "Addenda" column aims to lighten the general seriousness of our other coverage, but as faithful readers may already have guessed, filling "Addenda" is not always a picnic. Reading the newspapers, keeping our ears open at the PAA cash bar... these methods aren't always efficacious. So we invite constructive suggestions for "Addenda." If we don't receive any, our Demographic Staff will be forced to dig into its bag of favorite statistical jokes. For example...

"Knock, knock."

"Who's there?"

"Forty-two."

"Forty-two who?"

"Forty-two percent." (laughter, thigh-slapping)

That's just a sample. Let us hear from you.

—Art Haupt

SURVEY REPORT

Ecuador Fertility Survey

Ecuadoran women are increasing their use of family planning methods, according to a 1982 national demographic and health survey in that South American country. About 40 percent of married women use contraceptives, compared to 34 percent measured in a 1979 National Fertility Survey. Modern methods, such as the pill, IUD, and sterilization are the most popular, accounting for more than 80 percent of overall contraceptive use.

Large families are still desired: Ecuadoran women say they want 3.6 children on average. However, this figure is well below the actual fertility level of about 5.1 children per woman, suggesting some motivation for further increases in contracep-

Continued on page 5

Simpson Tries Again; Introduces New Immigration Bill in Senate

Immigration reform lives. Hill observers expect congressional action to follow a sequence of events similar to those of previous years with the Senate taking up the legislation first and the House acting later, if at all. Immigration bills have been passed by the Senate in 1982 and 1983 and by the House in 1984 only. Attempts to iron out the differences between the House and Senate bills bogged down in late 1984 and the session ended without any agreement on a bill.

Sen. Alan K. Simpson (R-Wyo.) on May 23 reintroduced his immigration reform bill. The chances of its passage in the Senate are particularly good, since he now holds the powerful position of assistant majority leader. The Chamber of Commerce of the United States, which opposed earlier versions of the bill as burdensome to the employers, endorsed this new bill.

The new Simpson bill contains changes designed to assure its passage. Stiffer penalties for employers who knowingly hire undocumented workers, and amnesty for illegal workers residing in the United States since before 1980 are also included.

The main difference between the revised bill and last year's Simpson-Mazzoli bill is that the President would be directed to appoint a "legalization commission" to determine whether the bill's sanctions against employers are working. Such a confirmation would take place one year after the law becomes effective, and no legalization of aliens could occur until the panel certified that the sanctions are working. Once sanctions were ruled effective, the Simpson bill would grant temporary legal status for two to three years to aliens who have lived in the U.S. since before 1980. Hispanic groups are reportedly skeptical that the employer sanctions will work, and they fear that as a result the legalization program will

not benefit Hispanics.

Earlier this year Rep. Edward Roybal (D-Calif.), author of the Hispanic Alternative immigration bill from last year, introduced a new bill that represented a step toward compromise (see *PT* March 1985). The bill, HR 30, provided for amnesty but also included employer sanctions. Due to pressure from Hispanic groups, Roybal has since withdrawn his support for the compromise bill and introduced a bill without employer sanctions similar to the original Hispanic Alternative bill.

Two other House immigration bills have been introduced by Republicans. Dan Lungren (R-Calif.), now ranking Republican on the House Immigration Subcommittee, has introduced a bill closely resembling the version the Senate passed last session, including a limited amnesty provision and employer sanctions. Robert Smith (R-N.H.) has introduced a plan with very stiff employer sanctions and no amnesty plan.

Before any bill is seriously considered in the House it will have to be introduced by a senior Democrat. But Democrats are apparently waiting for the Senate to act on Simpson's bill and for the White House to stake out a clear position on this sensitive policy issue.

Attorney General Edwin Meese is said to favor immigration reform proposals like last session's Simpson-Mazzoli bill. The new Simpson proposal would be less expensive to implement than previous plans because of its more modest amnesty provision, and is thus more attractive to Budget Director David Stockman who vigorously opposed the price tags attached to previous bills.

Hill observers do not expect any immigration reform action before late summer. □

Survey

Continued from preceding page

tive use. Younger, more educated women wanted 3 or fewer children, and accordingly reported higher contraceptive use.

The survey results document distinct regional differences in family planning behavior. Women in the high Andean region, site of the capital city Quito, are less likely to use family planning, though when they do they are more likely to use the IUD or a traditional method such as rhythm. Along the Pacific coast, dominated by the rapidly growing port city of Guayaquil, a larger percentage of women use contraceptives and are more likely to opt for the pill or female sterilization.

In contrast to many countries, the relationship in Ecuador between overall contraceptive use and fertility is not uniformly negative. Although a larger percentage of women use family planning in the coastal region, which includes a large rural agricultural population, fertility is slightly higher there. Unfortunately, reliable national fertility measures are not yet avail-

able from this survey.

Aside from family planning and fertility, the survey focused on child and maternal health. Information on pre- and postnatal care, breastfeeding, and child immunization coverage are presented in this final report. These data, describing the availability and source of family planning and other health services, provide valuable input for the evaluation of existing government programs. □

WORLD FOOD NEWS

A major committee of the Food and Agriculture Organization (FAO) of the UN has endorsed a world code of conduct on pesticides. The Committee on Agriculture (COAG) endorsed the Code in principle and it will next be discussed at the June session of the FAO Council for eventual submission to the FAO Conference in November. The Code is intended to help identify potential hazards in the distribution and use of pesticides. It also establishes standards of conduct and defines responsibilities for all engaged in the

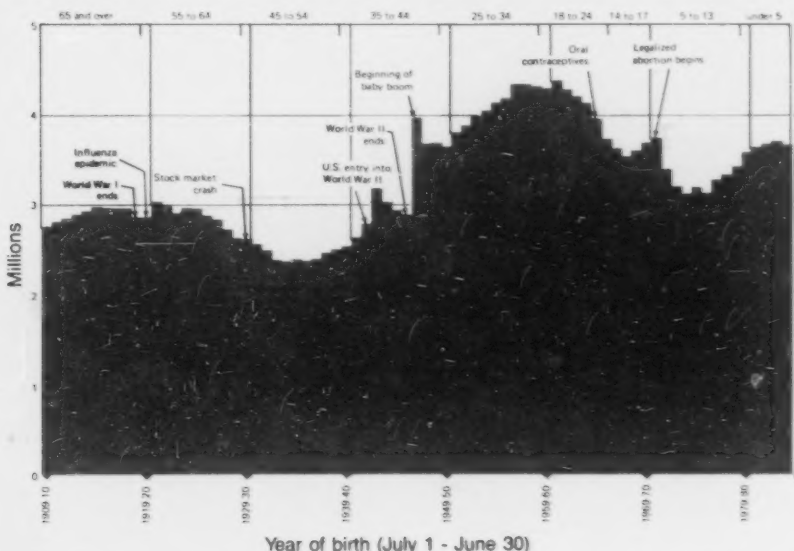
regulation, distribution, and use of pesticides. COAG described the Code as the end result of wide and extensive consultations with member nations, appropriate UN organizations, nongovernmental organizations, and the pesticide industry.

Among other major topics discussed by COAG was the role of so-called "minor crops" in nutrition and food security. Traditional foodstuffs such as roots and tubers, local grains, legumes, vegetables and fruits have not received adequate attention, according to COAG delegates, who stressed the unique role these foods could play in alleviating seasonal food shortages in rural areas. COAG recommended a stronger reorientation of agricultural research toward these long-neglected crops and a greater exchange of information and experience among developing countries.

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

SPEAKING GRAPHICALLY

Number of Births, by Year, 1910 to 1984, and Relationship to 1984 Age Groups



The graph above clearly illustrates the influence of social, economic, and political phenomena on fertility in the U.S. Each bar reflects the number of births during a given year. It is interesting to note that events such as war, the advent of the pill, and the legalization of abortion were followed by a marked decline in births.

Source: *Current Population Reports*, P-25, No. 965.

PRB

The Population Reference Bureau, Inc., has a new logo (see above).

Consisting of the letters P R B, the new symbol was created by the Washington design firm of Hyson/Ferretti/Morris, Inc. Later this year it will begin decorating PRB publications and letterheads.

"We wanted a fresh design that would capture our perception of PRB as professional, up to date, and readily accessible to the public," said Thomas W. Merrick, PRB's President. "We think our new logo gives a strong thrust to the Bureau's expanding activities during the 1980s—and beyond, for that matter."

The new design replaces PRB's "crowd of androids" logo, in use for the past decade, which had venerably been to PRB what "Big Boy" is to Bob's Big Boy restaurants. Recently, Bob's decided to stay with their symbol, but PRB's people-and-Venus-and-Mars-sign disk is now history. □

DEMOGRAPHER'S

Emigration as an Auxiliary Method of Population Control

by Thomas J. Espenshade
and Leon F. Bouvier*

It is generally known that a country having fertility below replacement and a constant annual number of immigrants arrives eventually at a situation of zero population growth.^{1,2} Neither government policymakers nor individual families need modify their behavior to ensure that a stationary population will result. It is guaranteed as long as initial conditions of fertility, mortality, and immigration do not change.

The twin circumstances of below-replacement fertility and net immigration are more likely to characterize developed than developing countries. Leaders in low-income countries are often confronted with the problem of reducing high rates of population growth—if not to zero, then to a level below the prevailing one. In this article, we focus on several ways this reduction in population growth rates might be accomplished, and we include emigration in the discussion as an auxiliary and often overlooked policy variable.

By focusing on emigration, we do not mean to suggest that it is either a general or a permanent solution to overpopulation. But for countries that are faced with high rates of population growth, emigration (in addition to fertility reduction) can offer some temporary relief from constant population pressure. In the long run, of course, the only relief on a world scale comes from lowered birth rates.

*Funding for this research was provided by a grant to the Population Reference Bureau, Inc., from the Alfred P. Sloan Foundation. Charles Calhoun, Maureen Lewis, and Douglas Wolf made helpful comments on this report. The splendid assistance of Anthony Agresta, Mary Kent, and Terri A. Murray in the preparation of this report is gratefully acknowledged.

The countries to which the following analysis is applicable are those with fertility rates above replacement and with net out-migration at all ages. It is assumed that the out-migration is not already so large as to produce zero or negative rates of population growth. The situation of fertility above replacement coupled with net out-migration is one in which many developing countries may find themselves. In addition, this set of circumstances provides an interesting and useful complement to the case where fertility is below replacement with net immigration.

The Demography of Population Control

Suppose, for the sake of argument, that there is no immigration and that r , the stable or intrinsic rate of a country's population growth implied by the indefinite continuation of age-specific rates of fertility, mortality, and emigration, is greater than zero. Suppose also that the country's policy objective is to reduce r to zero by f , an appropriate reduction in fertility.

Fertility declines can take on many different age patterns. Assume that the fall in fertility can be approximated by multiplying initial fertility rates at each age a by e^{-fa} where f is some constant greater than zero. One advantage of choosing this particular form of fertility reduction is that the percentage reduction in fertility is proportional to the age of the woman. In other words, the percentage reduction in fertility at age 30 is twice as great as the percentage reduction at age 15. To a first approximation, this formulation captures the way fertility declines usually occur.

If r^* is the new intrinsic long-term population growth rate corresponding to the new (and lower) fertility schedule, then $r = r^* + f$ or $r^* = r - f$. Therefore, if f is chosen equal to r , the prescribed fertility reduction will be just sufficient to cause r^* to equal zero. A value of f larger than

r will produce a negative value for r^* , and a value of f less than r will lower the long-term population growth rate, but not all the way to zero.

Alternatively, suppose that it is considered not possible or not advisable to attempt to alter fertility and, in addition, that increases in mortality are not likely. Then another approach policymakers may choose in order to lower population growth rates is to encourage additional out-migration. We have assumed that out-migration is already underway. Now suppose that out-migration rates are increased by an amount m at each age.

If r^* is once again the new long-term rate of population growth resulting from higher emigration, $r^* = r - m$ so that if m is chosen equal to r , the additional out-migration that results will be just sufficient to reduce r^* to zero. More out-migration than that will yield a negative long-term rate of population growth. If m is less than r , r^* will be positive.

The Effects Combined

Up to this point we have kept separate the strategies of reducing population growth rates by reducing

Table 1: Age Sex Distribution of Baseline Population.
"Stablistan" 1980 (nos. in 1,000s)

Age group	Females	Males
0-4	5,383	5,595
5-9	5,233	5,424
10-14	4,723	4,848
15-19	4,029	4,015
20-24	3,088	2,930
25-29	2,530	2,367
30-34	2,038	1,908
35-39	1,698	1,602
40-44	1,439	1,398
45-49	1,196	1,171
50-54	952	930
55-59	777	748
60-64	627	577
65-69	504	456
70-74	395	355
75+	555	485
Total	35,167	34,809

Note: "Stablistan" in 1980 is assumed to have the age-sex composition of Mexico in 1980.

Table 2: Fertility Schedules Used in the Projections

Mother's age	Fertility rates Base Run ($f = 0$)	Fertility rates lower fertility ($f = .0143$)
15-19	0.104	0.081
20-24	0.220	0.159
25-29	0.215	0.145
30-34	0.186	0.117
35-39	0.142	0.083
40-44	0.051	0.028
45-49	0.008	0.004
Total fertility rate	4.630	3.085

fertility or by accelerating out-migration. They may now be combined to yield a more varied and flexible policy choice. Suppose that fertility and out-migration are adjusted in ways we have described by f and m , respectively. Then it will be the case that

$$m + f + r^* = r \quad (1)$$

Equation (1) carries the central message of population control approaches embodying emigration. In it, r represents the current rate of long-term population growth. We may think of r^* as a target rate, to be achieved eventually through a modification in the population's current behavior—that is, through an alteration in fertility and/or out-migration behavior. If we write (1) as

$$m + f = r - r^* \quad (2)$$

then equation (2) tells us how large m and f may be to yield the desired target rate of population growth, r^* , given the current intrinsic rate, r .

Equation (2) also tells us that there is an infinite number of combinations of m and f that will produce the same target rate. This conclusion is important because it gives policymakers more alternatives. The target rate, if it is lower than the current rate, may be achieved entirely through a reduction in fertility of the appropriate magnitude, through additional out-migration of the correct amount, or through some combination of the two approaches involving more (or less) fertility reduction paired with less (or

more) acceleration of out-migration. As long as the sum of m and f is equal to the difference between the actual and target rates, the target rate will ultimately materialize.

An Empirical Illustration

To develop these ideas further, we projected the 1980 population of "Stablistan" (see Table 1) under a variety of initial conditions. At the outset, Stablistan has a population of 69,976,000. Its crude birth rate is 33.5 per 1,000; it has an out-migration rate of 14.1 per 1,000; and its life expectancy at birth is 68 years. In projection I, the Base Run, fertility rates in column 2 of Table 2 were used in combination with the out-migration rates in Table 3 and Coale-Demeny level 21 mortality (West pattern) for males and females to project the population until a stable population was reached in the year 2060 with an intrinsic growth rate of $r = .0143$.

Suppose that an annual growth rate of 14.3 per 1,000 were judged to be too high, and that it was considered desirable to reduce this long-term rate to zero. How could this be done? Long-term zero population growth could be achieved solely by reducing

fertility and by leaving out-migration rates unaffected. One could also leave fertility untouched and encourage higher out-migration at each age.

Of course, other possibilities also exist, and the line connecting points A and B in Figure 1 shows all possible pairs of values for m and f that will produce a stationary population for Stablistan. As indicated by the label attached to this line, all points on the line produce a target rate of population growth (r^*) equal to zero.

Zero is not the only target rate that might have been selected. Another target is $r^* = .005$. Pairs of m and f leading to this target are shown by the diagonal line directly below and to the left of line AB and labeled $r^* = .005$. As the diagonal lines in Figure 1 move farther down and to the left, higher and higher target rates of population growth are reached. For example, the diagonal line passing through the origin of the diagram indicates pairs of m and f values that would leave the original stable rate of population growth ($r = .0143$) unaffected. As the diagonal lines shift upward and to the right, lower and lower rates of population growth are reached.

A diagram like the one in Figure 1, constructed using fertility, mortality, and out-migration rates for the same country, may be used in population policy discussions. First, policymakers need to choose a desirable target rate of population growth. In terms of Figure 1, they need to choose a particular diagonal line from among the many that are possible. Second, they must decide how to implement that target in terms of the appropriate combination of fertility reduction and emigration augmentation. This second decision amounts to choosing a particular point on the diagonal line they have already selected. Points closer to the vertical axis (labeled f) imply getting to the target mainly through lowering the initial fertility schedule, whereas points closer to the horizontal axis (labeled m) suggest that most

Continued on next page

Table 3: Age-Specific Emigration Schedule Used in the Base Run
(Rates are Per 1,000 Population)

Age group	Females	Males
0-4	5.8	6.3
5-9	5.8	6.0
10-14	5.5	5.8
15-19	16.6	10.9
20-24	26.9	32.6
25-29	21.7	40.2
30-34	22.7	37.0
35-39	23.2	37.7
40-44	26.6	33.9
45-49	11.8	14.4
50-54	8.8	9.0
55-59	7.0	7.2
60-64	2.4	2.5
65-69	1.1	1.1
70-74	1.1	1.1
75+	0.0	0.0

Note. Net emigration rates pertain to Greece.

of the difference between the actual rate and the target rate of population growth will be made up by increasing out-migration.

In practice, of course, policymakers do not make explicit choices about the values of m and f . What they can do is establish incentives to shift individual behavior in a particular direction. In the short run, out-migration rates may be more amenable to policy initiatives than are fertility rates.

Finally, just because all points on line AB in Figure 1 lead eventually to a zero rate of population growth, it does not follow that the sizes of the corresponding stationary populations are identical. In fact, they generally will not be the same. This idea is illustrated in Figure 2. Line I shows the population of Stablistan projected under the initial conditions of the Base Run. Population growth eventually settles down at an annual rate of 14.3 per 1,000. The Low Fertility graph (line II) shows projected population growth if point A in Figure 1 is selected—that is, if the entire reduction in the rate of population growth to zero is accomplished by a reduction in fertility and no change in the propensity to emigrate. This leads to a total fertility rate of 3.085 (column 3 in Table 2). Lastly, the High Emigration graph (line III) traces population growth if point B in Figure 1 is selected. At this point, fertility does not change and population growth is reduced to zero exclusively through higher out-migration. The total fertility rate remains at 4.63, but the

Figure 1. Combinations of m and f producing equal target growth rates, r^*

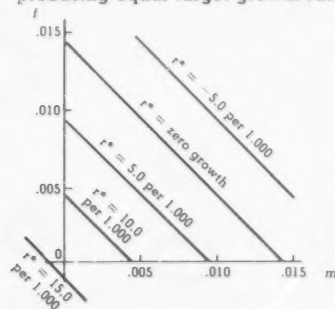
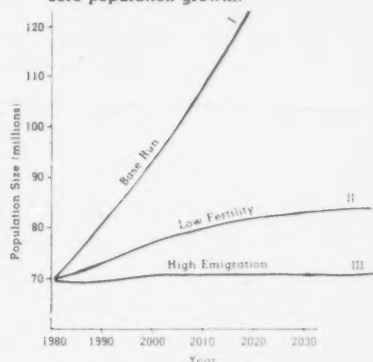


Figure 2. Base run population projection (I), and two scenarios yielding long-term zero population growth.



crude out-migration rate is increased by 14.3 per 1,000. In Stablistan, this means total out-migration of about 2 million per year.

The population growth trajectories corresponding to points between A and B in Figure 1 are contained between lines II and III in Figure 2. In Figure 2, line II lies above line III because of the effects of population momentum. Even if fertility is reduced instantaneously to a level corresponding to point A, population growth continues for a time because of the relatively youthful age composition of the initial population.

Conclusion

The theoretical stable model does not immediately translate into an "empirical" situation. Real world populations do not increase or decrease their fertility and/or migration rates in such an abrupt manner. Such changes are gradual. Nevertheless, this model suggests how policymakers can apply these demographic findings to population issues, and points out that increased out-migration is an option to consider should a reduction in growth be deemed advisable. □

References

1. Thomas J. Espenshade, Leon F. Bouvier, and W. Brian Arthur, "Immigration and the Stable Population Model." *Demography*, 1982, 19 (1), 125-133.
2. Thomas J. Espenshade and Leon F. Bouvier, "Fertility, Immigration, and Isopops." *Intercom* (Population Reference Bureau), March 1982, 8-10

Poverty

Continued from page 2

increase began in 1978, three years before the changes were implemented."

The official poverty income thresholds, updated each year to account for inflation, were \$10,178 for a family of four in 1983, and ranged from \$4,775 for a single person over 65 to \$20,310 for a family of nine or more. O'Hare notes that some critics claim that the poverty measure overstates the number of poor because it leaves out the cash value of benefits like food stamps, housing subsidies, Medicaid, and Medicare. But a 1984 Census Bureau report shows that even on this score some 24 to 31 million people were poor in 1983. Others claim that the measure, based on pretax income, has underestimated poverty since the 1981 tax changes which left the income tax threshold far below the poverty line so that a large portion of earned income of the poor and near-poor now goes to federal income and Social Security taxes.

Age Differentials

Among people aged 65 and over, the beneficiaries of the overwhelming bulk of increased government social spending since the mid-1960s, the poverty rate plummeted from 35.2 percent in 1959 to 13.9 percent in 1978 and inched up to only 14.1 percent in 1983, O'Hare reports. In fiscal 1984, federal spending on Social Security retirement checks (\$162.4 billion) was 20 times the federal share of AFDC (\$8.3 billion), the chief federal-state cash assistance program for the nonelderly poor.

From 1975 to 1984 the average annual Social Security retirement payment, indexed to rise with inflation, rose 20 percent, from \$4,162 to \$5,005 (in 1984 dollars), while average annual federal AFDC payments, which are not indexed, fell 20 percent, from \$4,795 to \$3,852 per family. Only 35 percent of poor families received cash welfare benefits in 1983, O'Hare reports.

Most cash and noncash programs that are "means-tested" (AFDC,

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Medicaid, food stamps, subsidized housing and school lunches) are intended only to provide a "safety net" of basic food, shelter, and medical care, and not to boost income above the poverty level, he points out. Federal spending on job training and educational programs that might lead to economic independence has been cut heavily since 1981, and totaled only \$5.7 billion in fiscal 1984.

Feminization of Poverty

O'Hare notes that the popular impression that welfare has fueled the increase in poor female-headed families, especially among blacks—the so-called "feminization of poverty"—is refuted by a study of Harvard researchers David Ellwood and Mary Jo Bane that found no relationship between the level of AFDC payments in different states and the proportion of female-headed families. A plausible reason for the rapid rise in female-headed black families, most of whom are poor, is the increasing dearth of "marriageable" black men, pointed out by University of Chicago sociologists William Julius Wilson and Kathryn Neckerman. Black males' rates of unemployment, incarceration, and mortality are all higher and job earnings lower than those of white males.

Half of officially poor adults aged 22-64 worked in 1983, O'Hare reports,

but could not earn enough to lift themselves and their families out of poverty, and another 10 percent reported looking for but not finding jobs. Poverty expert Michael Harrington attributes this to structural changes in the U.S. economy that have hit younger workers particularly hard—the lesser-skilled workers' loss of well-paid manufacturing jobs to mechanization and foreign competition—recently exacerbated, O'Hare adds, by recession and job competition among the swollen baby boom generation.

Welfare is still needed to tide the new poor over spells of joblessness and low earnings, O'Hare says, along with expansion—rather than threatened further cuts—of government-sponsored programs with proven track records in improving life chances for the poor (Headstart), providing disadvantaged youth with employable skills (Job Corps), and helping long-term welfare mothers find jobs (Work Incentive Program). With relatively minor initial outlays, such programs can help reduce the numbers of poor and cut federal outlays on welfare in the long run, he concludes. □

Copies of the 43-page *Population Bulletin*, "Poverty in America: Trends and New Patterns" (Vol. 40, No. 3) can be ordered for \$4.00 each; 2-10 copies, \$3.00 each; 11-50 copies, \$2.50 each; over 50, \$2.00 each. Handling charges: inside the U.S., add \$1.00 to each order; outside the U.S.,

add 25 percent of cost of the *Bulletins* ordered. Send order and remittance to PRB, Circulation Dept., P.O. Box 35012, Washington, D.C. 20013.

7,577,000 Scouts and Other Statistical Tales

As it does every year, the U.S. Census Bureau has come out with its definitive *Statistical Abstract of the United States*, the national data book and guide to sources. This, the 1985 edition, contains 1,515 tables (112 of which are new). The volume offers valuable demographic data, such as births, deaths, occurrences of disease, and immigration, but it also presents some more diverting statistics.

For instance: Only 9 percent of the population goes snow skiing at least once annually, though that figure rises with educational attainment and income. (However, 48 percent enjoy driving for pleasure.) The ranks of contact lens wearers, 4 million in 1971, have swollen to 9.9 million in 1980.

Statistical Abstract could prove to be a very useful reference tool for burgeoning trivia buffs, who can now dazzle their friends with tidbits such as: the number of Boy and Girl Scouts in the U.S. in 1983 (7,577,000); the wettest city in the

Continued on next page

Population Update

Estimated United States Population:

As of Jan. 1, 1985	237,839,000
As of Jan. 1, 1984	235,671,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 968.

Estimated World Population:

As of June 1985	4,838,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1985 population given on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: January 1985

Item	12 months ending with January					
	Number			Rate		
	1985	1984	1985	1984	1983	1982
Live births	3,704,000	3,621,000	15.7	15.5	16.0	15.9
Deaths	2,085,000	2,013,000	8.7	8.6	8.6	8.6
Natural increase	1,649,000	1,608,000	7.0	6.9	7.4	7.3
Marriages	2,479,000	2,441,000	10.5	10.4	10.8	10.6
Divorces	1,158,000	1,174,000	4.9	5.0	5.1	5.3
Infant deaths	30,100	30,300	10.6	10.9	11.3	11.6
Population base (in millions)	...	...	236.3	233.9	231.7	229.5

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source. *Monthly Vital Statistics Report* (Vol. 34, No. 1) from the National Center for Health Statistics.

Continued from preceding page

United States (Mobile, Ala., with 64.64 average annual inches of precipitation is the highest of the cities listed); the average charge per day for a hospital room in each state (the nation's high is \$266 in California, the low \$132 in Tennessee and North Carolina); and the highest and lowest temperature on record for selected cities (the national highest: 118 degrees Fahrenheit in Phoenix, Ariz. The lowest: minus 44 in Bismarck, N.D. Honolulu has the highest lowest temperature at 30, and also one of the lowest highest temperatures, 98). □

Statistical Abstract of the United States is available from Superintendent of Documents, GPO, Washington, D.C. 20402 at a cost of \$19.00.

SOFTWARE

SIG-STAT is an electronic bulletin board for anyone interested in the world of statistics. It features reviews of statistical packages, statistical freeware, and a message center.

Sponsored by the Capital PC Users Group, SIG-STAT is operated by Westinghouse Health Systems in Columbia, Md. It is on-line from 5 p.m. to 9 a.m. weekdays (Eastern Time), and 24 hours weekends and holidays. Call 301-596-3569 (or call 596-3569 in the Washington, D.C. metro area); communications parameters: 300 or 1200 baud, N,8,1. □

CORRECTION

Due to a production error, some text was inadvertently dropped from the page 2 article in the March 1985 *PT* on Social Security by Robert J. Myers. Between the end of page 2 and the story's continuation on page 6, the following words should have appeared:

"If the cost rate, so averaged, is between 95 and 105 percent of the average income rate, then the system is said to be in actuarial balance. (The author believes that this ratio is somewhat on the high side, and that the system should not be considered in balance if the cost rate exceeds the income rate by more than 1 percent.)

Some people criticize estimation of OAS-DI's long-range future solvency because of making reliable forecasts up to 75 years in the future. Admittedly, such estimating is difficult, but elements are involved whose general trends can be projected reasonably well. Most notable among these are the demographic elements—particularly the population..." □

TAKE A NUMBER...

Latest Rates from China: Reports from China for 1984 indicate a birth rate of 17.5 births per 1,000 population, and a death rate of 6.7. Both are lower than 1983's rates of 18.6 and 7.1, respectively. Some underreporting of deaths is thought to occur in China, although the country's published data are generally considered of good quality. Despite the drop of about one point in the birth rate, a preliminary estimate by Judith Banister of the U.S. Census Bureau indicates that the 1984 total fertility rate (TFR) remained at just about the 1983 level of 2.07 children per woman.

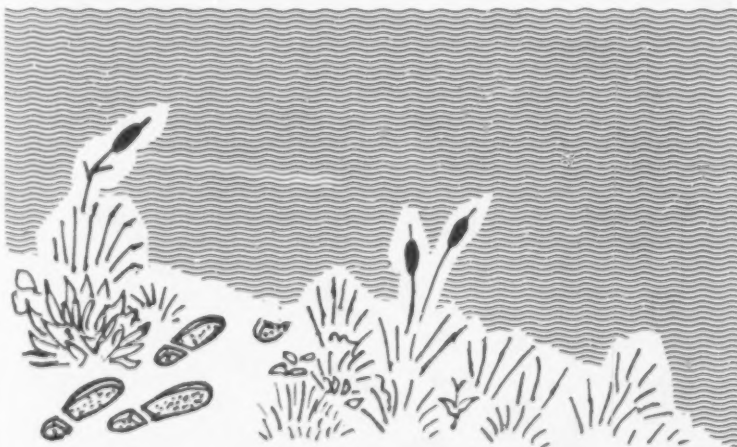
Single Years Shed Light: Census data shown by single years of age, such as those given in the UN's 1983 *Demographic Yearbook*, serve to remind us of the shaky quality of the data in many instances. While lying about one's age may be a popular sport in developed countries, the situation is somewhat different in developing countries. In many LDCs, knowledge of one's age is often lacking, so that when asked, many must guess. Much of this guessing favors round numbers such as those ending in zero or five. In Bangladesh's 1974 Census, for example, there were 2.8 million people reported as age

30, but only 124,209 reported as age 31. Demographers refer to this sort of reporting as "age heaping."

Preferring Bypass to Boston: In a recent Gallup poll, almost half of Americans interviewed said that they preferred living in a small town of 20,000 or less or in rural areas. Only 7 percent chose a city of 1 million or more. Oddly enough, only one-third of those living in large urban areas expressed dissatisfaction with their place of residence, so a mass exodus to the countryside is not expected.

Here and there... The mythical average American continues to get older as the U.S. median age hit 31.2 in 1983... The World Bank estimates that Finland's population has the world's most even income distribution, with the top fifth earning four times the bottom fifth; in the U.S., that ratio is 16:1 and in Brazil 33:1... the U.S. birth rate stopped declining in 1984 and is, in fact, a bit higher than 1983, 15.7 births per 1,000 population in 1984, 15.5 in 1983... about one-third of the U.S. adult population are sufficiently illiterate so that they cannot read a daily newspaper or the warning label on an aerosol can, according to Jonathan Kozol, author of *Illiterate America*...

...addenda



Statistician wading across stream with an average depth of 2½ feet.

With thanks to the L.A. Herald's Irving Bengeldorf

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

WE CAN MANAGE: Expectations about Care and Varieties of Family Support among People 75 Years and Over. by Alice T. Day. Melbourne, Australia: Institute of Family Studies, Monograph 5, 1985. 168 pages. \$7.00

This paperback is about the "very old" living outside institutions in household situations. It presents findings and interpretations of interviews with 23 persons over 75 years of age.

The study was part of a survey of persons 60 and older living in Sydney conducted by the Ageing and Family Project of the Australian National University. Day writes that the very old are best served where both "affection" and "practical help" are present; the transition from self-help to dependence is a most critical process; female relatives provide the bulk of support for the aged; needs of old people ought to be satisfied as they themselves define these needs; and perhaps most importantly, in Australia as in the U.S., the very old are deeply concerned about being stripped of their dignity and independence.

This well-written book raises important universal issues that touch the very old most, but should concern all age groups in society—among them, questions of resource allocation, the balance of government and family support, and reasons why children may be unavailable to help older parents.

—Alex von Cube

WOMEN ... A World Survey. by Ruth Leger Sivard. Washington, D.C.: World Priorities, 1985. 44 pages. \$5.00 ISBN 0-918281-00-8.

"The changes achieved in women's status during the period since World War II have been extremely uneven, and on the whole, modest.... Throughout the world women are still disproportionately represented among the poor, the illiterate, the unemployed and underemployed."

So begins this very attractive three-color survey of women worldwide: their work, health, education, and social and political status. Throughout the body of this 44-page work, colorful and imagina-

tive graphics provide an at-a-glance perspective on virtually all the data presented.

The text is a running commentary on various aspects of the data, often providing quotable quotes. This publication, by the author of the annual *World Military and Social Expenditures*, is appropriate for anyone interested in the status of women. Its presentation of hard data in a clear, easy-to-read format is ideal for students, both as a text and a reference work.

—Janine Adams

METHODOLOGIES FOR THE COLLECTION AND ANALYSIS OF MORTALITY DATA: Proceedings of a Seminar at Dakar, Senegal, July 7-10, 1981. edited by Jacques Vallin, John H. Polard, and Larry Heligman. Liege, Belgium: Ordina Editions, 1984. 510 pages.

The first six chapters of this book deal specifically with a variety of indirect data collection strategies, some of which have been successfully implemented in developing countries.

The section on Mortality Measurement emphasizes the life table. Other issues in this second section include a synthesis of the indirect methods available for measuring mortality in developing countries, how best to summarize the mortality situation in a country, and the traditional problems of age, period, and cohort analysis.

The exploration of data for characteristics that correlate with increased probabilities of death is always a major preoccupation in mortality analysis. The book's third section deals with this topic from many different perspectives.

Methodologies for the Collection and Analysis of Mortality Data provides a highly structured account of the three critical stages in mortality analysis. It is well organized and includes chapters from a number of experts in the field. However, the highly mathematical text may not be easily understood by the lay person.

—Anthony Agresta

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SPOTLIGHT

LOUISIANA

Population, 1984 (est.): 4,462,000
Births per 1,000 pop. (1983): 18.6
Deaths per 1,000 pop. (1983): 8.2
Land area: 47,800 sq. miles
Persons per square mile (1980): 94.5
Children ever born to 1,000 women
aged 25-44 (1980): 2,242
Percent of population aged 65 and
over (1983): 9.6
Percent of population aged 18 and un-
der (1983): 30.6
Percent born in Louisiana now resid-
ing there (1980): 78.1

by Edward O'Boyle

The Louisiana economy is a special blending of the new and the old, the colorful and the dynamic: oil rigs and cotton gins, sugar cane and paper mills, petrochemicals and fur trapping. Of late, the image builders have tagged Louisiana the "Dream State."

Most fundamentally, however, Louisiana is 4,462,000 Louisianians, according to Census Bureau estimates for 1984. The state's population doubled over the 55-year period beginning in 1930, from 2.102 million to 4.206 million. In 1980, some 29 percent of the population was black. In 1830, the proportion of black residents was twice as high. While many are aware of Louisiana's 18th century French and Spanish settlers, roughly three thousand years before the flags of France and Spain were planted in the soil, Indians were living on the Gulf coast and in the Mississippi River basin.

In 1980, the "typical" Louisianian was 27.4 years old, a native of the state, and lived with two to three other family members. At home, approximately 10 percent of Louisianians 5 years of age and older spoke a language other than English. Overwhelmingly, and not surprisingly, that second language was French. Average family income was \$21,454 in 1980. Nearly one of every five families lived below the poverty level. The

poverty rate for children under age 6 was one of every four.

Over the past decade or more much has been made of the migration from the Frost Belt to the Sun Belt. Almost 325,000 persons migrated to and stayed in Louisiana from 1975 to 1980. Sixty-one percent of these reported living elsewhere in the South in 1975; only 81,000 immigrants came from the Northeast and North Central U.S. During the same period, about 278,000 persons moved away, mostly to other Southern states, notably Texas. Ninety percent of Louisiana residents in 1980 were living in the state in 1975.

Louisiana ranked 19th in total population among the 50 states in 1980. At the same time, it ranked third in the number of persons born in Vietnam, exceeded only by the more populous California and Texas. More than 90 percent of Louisiana's Vietnamese natives immigrated during the 1975-1980 period.

In terms of the number of persons employed, wholesale-retail trade and professional and related services were the two major industry groups in Louisiana in 1980. The third and fourth major groups were manufacturing and construction. While Louisiana's oil and gas industry has figured prominently in its development, the mining sector (which includes oil and gas extraction) accounted for only about 5 percent of the state's employment.

More persons were employed in technical, sales, and administrative support occupations than any other group. The second largest group was managerial and professional specialty occupations. Together, these two groups accounted for one-half of all employed persons in Louisiana.

At the time of the 1980 Census, the rate of unemployment among blacks was more than twice the rate for whites. White per cap-

ita income in 1979 was \$7,641. For blacks, the figure was \$3,628. Among persons receiving income in 1979, the median for white males was \$13,724. For black males the median was 50 percent lower and for white females it was more than 60 percent lower. Among black females, the median was \$3,302 or only 25 percent of the white-male standard.

Among the population 25 years and older, about 55-60 percent were high school graduates in 1980. The proportion varied greatly by race and by urban/rural residence. For whites in central cities the rate was 72.2 percent, more than twice that of rural blacks.

The state's future depends critically on how well it manages its natural resources, and in particular, how it addresses the need to develop its human resources as oil and gas reserves become depleted. At present, the state's higher education is vocationally oriented, but public debate on the future might be summed up by the question: Should education continue to follow economic development or should development follow education? The answer to that question may well decide whether future generations of young Louisianians realize their life dreams in the Dream State or somewhere else. □

Edward O'Boyle is a Research Associate and Associate Professor of Economics, Louisiana Tech University.



Jackson Square in New Orleans — part of the Louisiana story.

Rebekah O'Boyle

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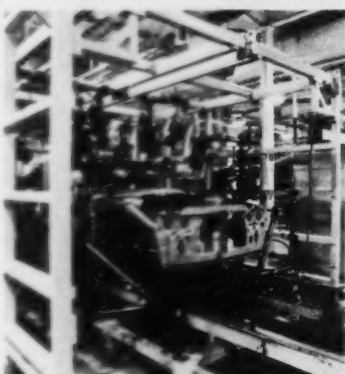
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Mercedes Concepcion and William Brass—IUSSP's outgoing and incoming presidents. See page 5.

After Manufacturing, What? (Demographically Speaking)

Manufacturing jobs are diminishing in the U.S. economy. The question is—what will take their place?



Tireless robots weld car body

From January 1980 to April 1985, while the service sector was picking up about 8 million jobs, the U.S. lost 2.3 million manufacturing jobs, according to a report prepared by the Bureau of Labor Statistics. These losses come despite the fact that the U.S. economy is rebounding from the 10-percent unemployment of the 1982-1983 recession.

This is happening as the U.S. continues its shift from a manufacturing to a service-dominant economy. The shift is due to a number of factors—notably, technological

progress, changing international trade patterns, and rising standards of living (the last is considered to stimulate demand for special services rather than additional goods). As a result, the U.S. economy, along with the people holding its 106 million jobs (as of the last quarter of 1984), are experiencing the pains of economic restructuring.

Despite population aging, the work force has increased proportionally to the U.S. as a whole—from about 59.6 percent of the over-16 population in 1950 to 64.9 percent in mid-1984, in part due to the greater participation of women, who constitute 43.5 percent of the labor force (as of 1983). It is women in particular who have responded to (or helped to create) the burgeoning labor market for service workers.

But it may be too much to expect an economy to generate an unlimited number of jobs through demand for services. As Nobel laureate Wassily Leontief wrote in an analysis in *Population and Development Review*: "Since the service sectors were... and still are more labor intensive than agriculture and manufacturing, their rapid growth more than compensates at the present time for job loss caused by the computerization and automation that has begun to be introduced in these sectors; yet the shift of demand from commodities into services is bound to slow down, while displacement of labor by increasingly efficient machines seems to have no limits. The ability of the service sector to absorb displaced workers will diminish." For example, word processors and personal computers have already cut into clerical positions as professionals who write now rely on letter quality printers rather than a secretary for final copies, and later this decade voice-actuated word processors able to take dictation will probably reach the market, so that even keyboard skills may then become passé. And that's a relatively modest gadget from the technologist's laboratory.

One possibility is that technology will polarize the new population of service workers into a "two-tier" system of positions and salaries—that is, a small proportion of high-tech professional and managerial positions and a large proportion of clerical and technical jobs. This

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Crowded Islands, Lack of Warning

The devastation of the islands of southeastern Bangladesh caused by a deadly cyclone on May 25 is a tragic example of overcrowding at its worst.

The death toll in the disaster is uncertain, but Bangladeshi authorities estimate it to be 10,000. The storm damaged or destroyed 200,000 homes, and ruined 135,000 acres of cropland.

Consisting of silt, the islands have risen from the sea only in recent years. Their vulnerability to storms is well known, but despite national law prohibiting their settlement for 10 years after they emerge, many land-starved poor people have flocked to them. Ironically, a highly sophisticated storm-warning system had been installed by the U.S., Louisiana State University, and the

UN in Dacca just weeks before the disaster. However, being aware of the impending storm and informing the populace about it are two very different propositions. The only infrastructure for warning available to Bangladeshi officials was radio, which proved ineffective, as very few of those affected could afford a radio.

Though the proportions of this year's disaster are enormous, they are dwarfed by the death counts from Bangladesh's 1970 cyclone and tidal wave, which left at least 300,000 dead. Clearly, if the effects of these inevitable seasonal storms are to be minimized, greater resources will have to be spent on development of more effective warning, evacuation, and fortification systems. □

Kemp Moves to Block UNFPA China Funding

International family planning assistance is once again being threatened, this time because of efforts by Rep. Jack Kemp (R-NY) to limit U.S. population aid to any organization which helps fund coercive abortion. The Kemp Amendment, which is attached to the Supplemental Appropriations Bill for foreign aid for FY 1985, has been approved by the full House.

Aimed at limiting population aid to China, Kemp's amendment stipulates that "none of the funds made available in the bill nor any unobligated balances from prior appropriations may be made available to any organization or program which supports or participates in the management of a program of coer-

Continued on next page

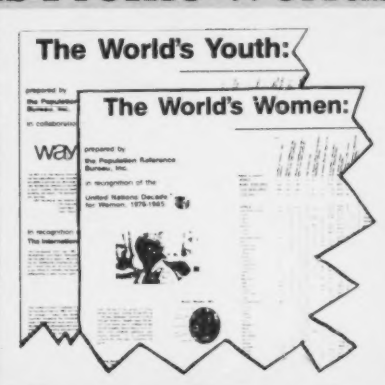
New Data Sheets Profile Worlds' Youth, Women

PRB has just published two data sheets in cooperation with international organizations.

This year—1985—is International Youth Year, being celebrated all over the world with conferences and awareness programs. PRB has developed a Youth Data Sheet in cooperation with the World Assembly of Youth, containing copious statistics on the youth of 170 countries. A youth is defined as someone age 15-24: 940 million people fit in this category—nearly one of every five people on earth.

Youths are a vital population component, of course, for many reasons. They are important to the labor market, as well as to fertility—two factors that have a great bearing on the world's future. The world continues to be young, due to the continuous baby boom resulting from high fertility rates. The data sheet shows that about 58 percent of the people in the less developed countries are under 25.

The Youth Data Sheet contains 10 columns on such data as average number of children per woman and percent of population be-



low age 25. Perhaps the best snapshot of what the present-day world is like can be gleaned from a special column of the Youth Data Sheet—survival from birth to age 20. While such survival is all but routine in the more developed countries (98 percent of those born reach age 20 or beyond), the less developed countries are another story. In the LDCs, excluding China, only about four out of every five children born lives to reach age 20. In Sierra Leone only three out of five reach age 20.

1985 also marks the end of the United Nations Decade for Women. Though no one can say for

sure, the world's 2.41 billion women seem to be the world's largest minority: As close as anyone can estimate, they make up 49.78 percent of the world's population.

The other new data sheet from PRB, *The World's Women: A Profile*, prepared in recognition of the UN Decade for Women, details the essential statistics of women in 170 countries, showing their total numbers country by country, as well as such male-female variables as literacy and school enrollment. The extent of women's contraceptive use is also covered, for countries where statistics are available. The Women's Data Sheet was distributed at the Conference to Review and Appraise the UN Decade for Women in Nairobi, Kenya, in July. □

The two 18 1/2-inch x 24-inch wallcharts are available from PRB for \$2.00 ea. Handling charges: Inside the U.S., add \$1.00 for each order; outside the U.S., add 25 percent to the cost of the order. Orders of \$20.00 and under must be prepaid. Send order and remittance (checks payable to PRB) to Circulation Dept., PRB, P.O. Box 35012, Washington, D.C. 20013.

FROM THE EDITOR'S DESK

This year's *Data Sheet* puts total world population at 4.845 billion at mid-1985...

—PT, April 1985

But what's mid-year? Not necessarily a point in time (after all, not even 12 noon July 1 is perfectly mid-year during leap years, and in any case demographers don't make statistical distinctions between regular and leap years).

Nor does "mid" quite equal mean. Thanks to a constantly growing base, a population that starts a year with 235 million people and then grows by a constant 0.02 percent daily (the U.S. numbers, as it happens) will increase by 5,640 more people in the second half of the year than it did in the first half.

No, the "mid" mark is mainly a convenient scenic overlook where a population can pause during its dash through the calendar year. And this year the day served as an excuse for this Desk to pause during the microsecond at 12 noon EDT on July 1, when the world population hit 4,845,183,000—PRB stands by its estimates—to hoist a glass and wish PT's readers a Very Happy New Mid-Year!

—Art Haupt

Continued from previous page

cive abortion." This amendment would impede funding to the UN Fund for Population Activities (UNFPA) in particular. The UNFPA had already been denied the \$10 million it would have used in FY 1985 for aid to China (see PT, May 1985). With this amendment, Kemp has displayed his displeasure over the UNFPA receiving any U.S. funding.

Over on the Senate side, however, the Appropriations Committee has amended the Kemp Amendment in a way that could severely impair its efficacy. Their new language, proposed by Sen. Daniel Inouye (D-Hawaii), requires that in order for the Kemp prohibition to be implemented, the President must officially determine that (1) China's population program is one of coercive abortion and (2) the UNFPA participates in the management of a program of coercive abortion. Hill observers find it unlikely that the current administration would be willing to threaten U.S.-China relations by determining that China has an official policy of coercive abortion.

In another development, Sen. Jesse Helms (R-N.C.) has further amended

the Kemp Amendment to include "involuntary sterilization" as a practice (in addition to Kemp's "coercive abortion") that would disqualify an organization or program from receiving U.S. government funding. The bill will go to conference committee where the differences between the House and Senate versions will be reconciled.

Whether or not the Kemp Amendment (which covers only funds for FY 1985 and would not be part of permanent law) is rendered ineffective, efforts on the Hill to restrict international family planning assistance will continue. Rep. Chris Smith (R-N.J.) has introduced similar legislation—combining Kemp's intent with that of Helms—in the form of an amendment to the foreign assistance authorization bill for FY 1986. Congress's reaction to Smith's efforts, as well as to those who intend to nullify Smith's bill through amendments, remains to be seen. More on this legislation in next month's PT.

SURVEY REPORT

Jordan

Jordan has released results from the 1983 survey of fertility and family health, taken by its Dept. of Statistics in collaboration with the U.S. Centers for Disease Control.

The survey indicates that while some fertility decline has occurred, overall birth levels remain high. A national total fertility rate (TFR) of 6.6 lifetime births per woman was estimated from the survey, which interviewed 3,939 ever-married women. This TFR represents a notable drop from an estimated rate of 7.7 in the early 1970s, but much of the drop has been caused by a rising age at marriage rather than a sharp increase in family planning. In 1983, 26 percent of the married women said that they were contracepting (21 percent were using a modern method), a three-point increase over 1976 survey data.

"Unmet need," or the percentage of women exposed to the risk of pregnancy, not using family planning, but not wishing to become pregnant, amounted to about 20 percent of the women interviewed.

While there has been some decline in fertility, the survey results indicate

that the desired number of children is still quite high. For women with 5 living children, nearly three-quarters said that their last pregnancy was planned and an additional 15 percent said it was "mistimed." Only for those women with 6 or more living children was a significant proportion, 31 percent, of last pregnancies unwanted.

Overall, 58 percent of the women with a birth in the previous five years reported that they had had a prenatal exam, with a higher rate of 70 percent reported for those living in large urban areas (Amman, Zarka, and Irbid).

As previous surveys in Jordan have indicated, small declines in fertility notwithstanding, the desire for large numbers of children suggests that any future birth rate decreases will be slow in coming. □

New NAS Study Estimates 2 to 4 Million Illegals

Only 2 to 4 million illegal immigrants reside in the U.S., a number much smaller than had previously been estimated, according to a National Academy of Sciences (NAS) panel.

The panel concluded that the number of illegal aliens has not risen as sharply since the late 1970s as had been stated by Immigration and Naturalization Service (INS) officials. In fact, the panel reported, available INS data suggest that the population of deportable aliens has increased little, if at all, since 1977.

The NAS panel criticized the INS for not keeping adequate statistics on immigration, reporting that as a result, immigration policy "has been made in a vacuum." These findings, along with any estimates regarding illegal immigration, are politically sensitive. Opponents of immigration control could well use the panel's findings to argue that the problem of illegal immigration has been exaggerated, while supporters of controls might insist that the previous estimates are more accurate.

The NAS panel also found that data on emigration from the U.S. were "totally lacking." It recommended that the Census Bureau produce and publish such data. □

The report, *Immigration Statistics: A Story of Neglect*, is available from National Academy Press, 2101 Constitution Ave. N.W., Washington, D.C. 20418. Price: \$23.95.



IUSSP Meets On the Banks of the Arno

"[We] demographers are increasingly called upon to move from ivory towers to explain the practical relevance of our research and suggest action programs to policymakers and planners. Especially in developing countries, we can't afford the luxury of not being involved."

Flanked by trumpet-bearing pages in Medieval doublets, with TV cameras recording the scene, Mercedes Concepcion of the Philippines, outgoing president of the International Union for the Scientific Study of Population (IUSSP), reminded her audience of the real world beyond the ornate Grande Salone of Florence's Palazzo Vecchio at the opening of the Union's June 5-12 general conference.

Over 900 registered participants—plus perhaps half as many untallied camp followers—were there from all parts of the world to hear her message. Invited by Italy's National Population Commission with the blessing of the national and Tuscan regional governments, the gathering was the 20th general conference of the IUSSP, which meets every four years. Born at the prompting of Margaret Sanger at the first World Population Conference which she organized in Geneva in 1927, the Union now counts 1,819 members elected from among population scholars in over 100 countries.

Undaunted by the rich distractions of Florence, Concepcion's opener set the

tone for what became a central theme—the crucial role of demographers in development. This was amply illustrated by the 1984 International Population Conference in Mexico, as UNFPA director Rafael Salas reminded the opening day audience.

If "too much is [being] expected of demographers," as Srikantan of India later put it, Norman Ryder (Canada/U.S.) and many others suggested that the demographic field must rely on other scientists—economists, medical specialists, etc.—to help provide the objective data and practical direction needed to integrate population concerns with development goals. To capture busy policymakers' attention, scholarly jargon must be translated and reports kept short, said Dov Chernichovsky (Israel) and Jerzy Holzer (Poland). Use the media to conscript public opinion, it was also advised. "Politicians react to public opinion," said Rudolf Andorka of Hungary.

Evidence of important contributions by demographers came from a battery of China's leading demographers present at the conference. Heartened by praise lavished on the thoroughness and accuracy of China's census and national fertility survey of 1982, the Chinese delegation—led by census director Liu Zheng—noted that the country's one-child policy would be necessary "only for the 1980s and 1990s" to dampen the momentum created by the baby boom

generation of the 1960s and early 1970s now entering childbearing ages. This would enable China to attain its goal of stabilizing the population at around 1.34 billion in 2034. U.S. demographers Judith Banister and Eduardo Arriaga suggested that China might ease the one-child policy even earlier because of the government's desire for popular support and because of distortions in the age distribution that will result from continuing a one-child regime for too long.

According due voice to less developed country (LDC) demographers within the IUSSP itself became an issue in elections for the incoming governing Council, held on the third day. Though LDCs now account for 43 percent of the membership, Secretary-Treasurer Georges Tapinos reported, only three of the nine new or reelected "regular" Council members (Jose Alberto de Carvalho of Brazil, Mohammed El-Badry, Egypt, and Jorge Somoza, Argentina) and none of the top three for 1985-1989 (President William Brass of the U.K., Vice President Massimo Livi Bacci of Italy, and Secretary-General/Treasurer Tapinos, France) come from developing countries. Members from France and other developed countries led the initiative to seek ways to redress this imbalance, and to involve more women, represented on the new Council only by Charlotte Hohn of West Germany. Women make up about 23 percent of

Continued on next page



At Florence, IUSSP members met from around the world.



Chinese attendees at the Palazzo del Congresso.

Continued from preceding page

members (an estimate hindered by difficulties in ascertaining gender from registered names, IUSSP administrative staff admitted).

Europeans' concerns received full play in a session on "responses to policies aimed at increasing fertility in low-fertility countries." Government efforts in this direction were viewed with skepticism, although East German, French, Hungarian, and Polish demographers reported that policies *had* made a difference in their countries. A Norwegian's suggestion that efforts be made to stem the rising tide of low-fertility, nonmarital cohabitation was countered by Sweden's Erland Hofsten—"Why not encourage single people to have children?" He was backed by Natalie Kyriazis of Canada: "Childbearing outside of marriage may be more attractive to women." A U.S. participant asked: "If Europeans are concerned about low fertility, why are you closing your doors to immigrants?"

Logistics and Attractions

After the gala opening, conference meetings shifted to the modern Palazzo degli Affari and neighboring Palazzo dei Congressi, conveniently close to the railroad station. A bar, two cafeterias, and ample extra meeting room space facilitated all-important contact-making in and out of business hours. Simultaneous French-English translations over individual receivers smoothed communication during sessions.

Florence itself was a prominent presence. Participants talked of narrow escapes and disturbed sleep from noisy two- and four-wheeled vehicles and widely varying hotel prices and quality. But this was countered by fascination with the city's beauty, rich culture, and antiquity—and the temptation (stoutly resisted) to become full-time tourists.

The Pitti Palace was the site of one of

the two elegant receptions arranged by the local organizing committee (under Livi Bacci), with a sumptuous buffet in the courtyard—quickly devoured by the assembled throng—followed by free viewing and chatting in the magnificent upstairs galleries of Renaissance paintings and statuary.

The working side of the conference included 29 "formal" sessions, 12 "informal" sessions, and four "side meetings," four or five of which were going on simultaneously. In a marvel of preplanning, the IUSSP administration had the three or four papers selected for each formal session ready for each participant upon registration, in three volumes weighing in at 5 pounds—even airmailing selected papers in advance to people registered before March 31. Upwards of 200 more "contributed"—though unpublished—papers were available in quantity in the registration hall. One could always read the papers later, but not attending the three-hour sessions would have meant missing the flavor of discussants' remarks on these papers (which were not read at the time), authors' rebuttals, chairpersons' introductions and summaries, and pithy observations from the floor.

The five full and two half days of meetings (interrupted by Saturday afternoon and Sunday off for wandering in the Uffizi gallery and beyond) also included opening and closing plenary sessions, three "general assemblies" limited to bona fide IUSSP members, and various specialized attractions. These ranged from the first member meeting of the new European Association for Population Studies to a meeting of Canadians called to discuss creation of a national committee to promote a larger Canadian voice in IUSSP affairs (an idea discouraged by one attendee on the basis of the political hazards of national committees, around which IUSSP was organized before World War II).

Other sideline attractions were daily

TV screen showings of population-related documentary films, the IUSSP's display of photos and letters documenting its history "from Margaret Sanger to Mercedes Concepcion," a lavish book and journal exhibit, and exhibits on the History of Tuscany and the Population of Italy.

The opening plenary featured three titans speaking on "demographers' views of the 21st century." Louis Henry of France and William Brass agreed that the profession could congratulate itself on its vast accumulation of data since it began in 1662 with John Graunt's Bills of Mortality. The record was shakier on projections but likely to improve—a prediction guaranteed by the marvelous machinations of computers, said Nathan Keyfitz of the U.S., who enthusiastically distributed handouts of many-varied graphic projections performed on his Japanese IBM-compatible personal computer.

Themes, Subjects, Methodologies

Cross-cultural perspectives were emphasized at the meeting. With so many different nations represented, generalizations based on only one country's experience were not in order. In many sessions—for example on mortality trends in developed countries and the relation between demography and the biomedical sciences—evidence from varying nations demonstrated how demographic trends are shaped differently by different sociocultural settings and histories.

Techniques of analysis and data collection need to be sharpened not only in developing but developed countries, it was agreed. New findings call for reexamination of many past assumptions about demographic behavior. On the demographic transition, for example, the U.S.'s Judith Blake suggested that the view that transition from high to

Continued on next page



Sessions featured discussions, not paper readings.



Nafis Sadik and Steve Sinding.

Continued from preceding page

low fertility requires the social conditions associated with industrialization and modernization (education, participation of women in the workforce, etc.) may have to be revised. Papers presented in a session on "patterns and trends in causes of death in low mortality countries" challenged the tradition of establishing one underlying cause of death when, increasingly, older age is associated with multiple chronic illnesses.

Mortality is again high on the demographic research agenda, especially in regard to developing countries. This is prompted in part by the wealth of data on infant and child mortality and related socioeconomic variables generated by the World Fertility Survey and other surveys, and concern about stalled life expectancy gains in some LDCs. Mortality analysis could be improved if demographers incorporated biomedical factors in their explanatory models and medically oriented researchers paid attention to demographic and socioeconomic factors. Commentators noted the importance of the diffusion of knowledge about health and health care as well as access to new technology in explaining mortality differentials and improvements in life expectancy. Health-care knowledge was also cited as the key factor in the greater class differentials in mortality observed today compared to the past.

Debate on the consequences of rapid population growth reflected the recent shift of emphasis away from the global effects of population change to issues such as rapid urban growth and its effects on housing, nutrition, education, and employment for the growing number of young adults in LDC cities. Population distribution, within as well as between countries, also returned to center stage. Few of the problems raised were new, but the sheer vastness of today's numbers heightens the challenges they represent for both developing and developed societies.

Micro approaches to demographic analysis received frequent endorsement. Focusing on small well-researched samples with in-depth interviewing, "pocket demographers" can unveil trends undetectable in census and national survey data—the twists and turns in proliferating family and nonfamily life styles in developed countries, for example.

Among other recommended methodological fine-tuning methods included: "decomposing" variables to study short-term shifts in trends usually averaged over time (employment fluctuations due to short-term economic conditions, for example), relating fertility, migration, and women's employment to family life cycle stages.

In a session on the future of family planning, Srikanth of India declared that "a steady growth of contraception in developing countries over the next 45 years is unlikely to happen" because social conditions in his view are not changing rapidly enough to bring about the requisite drop in desired family size. Charles Westoff of the U.S. was more optimistic, citing contraceptive prevalence surveys that indicate contraceptive prevalence (behavior) going up faster than changes in fertility attitudes (the percentage of women wanting no more children). Also, research by Robert Lapham and Parker Mauldin of the U.S. continues to show that family planning program efforts—which are increasing in most LDCs—boost contraceptive prevalence more than would be expected on the basis of social setting alone. Even in India, it was reported, the percentage of eligible couples using contraception went up some 10 points—from 22 to about 32 percent—between 1981 and the beginning of 1985.

Reports by Sieu-Ean Khoo of the Australian National University and the U.S.-based Association for Voluntary Sterilization confirm that sterilization—especially female sterilization—is probably now the world's leading contraceptive method, dominated by its popularity in China, In-

dia, and the "West," though not in Africa. Increases in the use of sterilization may have slowed in the early 1980s, perhaps due in developed countries to increasing cohabitation, delayed marriage, and divorce.

Winding Up IUSSP Business

Passed by a show of hands at the third business meeting was a proposed amendment to remove from the IUSSP constitution a clause that has reduced the weight of votes by members living in countries accounting for more than one-eighth of members, specifically the U.S. (which constitutes 26 percent of members counted by country of residence as of the end of 1984). The motion now goes to a written ballot by the entire IUSSP membership.

Upcoming IUSSP-sponsored conferences include one on "Population Issues and Prospects in Europe," organized along with the European Association for Population Studies and the Finnish Demographic Society and slated for June 11-16, 1987, in Jyväskylä, Finland, and an African regional conference, tentatively scheduled for 1988. Sites offered for IUSSP's next general conference, to be held in 1989, were Australia (preferably in December 1988, to cash in on funding available during Australia's bicentennial being celebrated that year); New Delhi (preferably not in June, India's hottest month); and Oslo, Norway (in June 1989), although the Norwegian spokesperson modestly added—"What can we offer after fabulous Florence?"

—reported by Alice T. Day, Thomas W. Merrick, and Jean van der Tak

Other elected regular Council members: Charlotte Hohn, West Germany; Shigemi Kono, Japan; Geoffrey McNicoll, Australia; Roland Pressat, France; Samuel Preston, U.S.; Leon Tabah, France.

photo on page 5 by Jean van der Tak

DEMOGRAPHER'S

Stalls in Fertility Decline in Costa Rica, Korea, and Sri Lanka

by Murray Gendell

This study seeks to answer two questions. First, are there developing countries whose decline in fertility was rapid but then decelerated greatly or stopped altogether? Secondly, if there are, what would cause such fertility declines to falter?

The number of developing countries which have experienced such a stall for at least five years at a level well above replacement, and for which quality data are available, is limited. It is, however, possible to study three such countries: Costa Rica, Korea, and Sri Lanka. In all three, the total fertility rate (TFR) began a sustained rapid decline during the 1960s (though in Sri Lanka the decline may have begun during the 1950s).

These declines began to stall around 1975. Korea, though, experienced such a pause earlier, and is the only one of the three in which two stalls occurred. Moreover, while the TFR leveled off during the late 1970s in Costa Rica and Sri Lanka, it continued to fall in Korea, but at a much slower pace than during the previous declines. The stalls which began in the late 1970s had not ended as of the most recent years for which data were available (1980-1982). (See Figure 1, which includes the fertility trend of Sweden, a low-fertility country, for comparison).

The explanations of the stalls are partial, and they differ from one country to the next.

Costa Rica

In Costa Rica, the fall of marital fertility and increase in contracep-

tive use slowed, apparently as a result of (1) convergence between desired and actual fertility in the mid-1970s, and (2) a weakening of the family planning program, as the initial enthusiasm and political support waned.

Because the explanation of the stall—the equilibrium between desired and actual fertility—seems to be simpler and clearer in the case of Costa Rica than of Korea or Sri Lanka (see below), it is easier to identify in Costa Rica what may be needed for the stall to end. Actual fertility could fall below desired family size, but it is more likely that a further decline in fertility awaits a decline in desired size. The available evidence about the determinants of desired size in Costa Rica is meager. In the past, researchers have made theoretically based conjectures about the effects of social and economic development. More evidence concerning the specific mechanisms linking development to changes in desired size would be helpful in accounting for the past trend in fertility and for projecting its future course.

Short of that, however, one may venture to speculate along the lines found in the literature. In that view, further substantial economic growth may be critical for expansion of education and social welfare to continue. Some of the consequences of such an expansion would be increases in the aspirations for higher social and economic status, the labor-force participation of women, the dependency (and hence cost) of children (as schooling lengthens), and the care and financial support provided the elderly via a combination of personal savings, better health, communal care facilities and services, and public and private pension programs.

If desired size were to fall substantially below the level of the late 1970s, then the status of the family planning program would be rele-

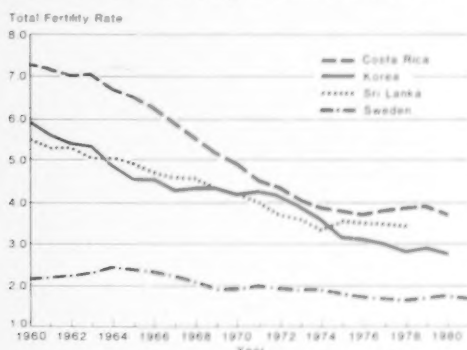
vant. What would renew the enthusiasm and political support that enabled Costa Rica's National Family Planning Program (NFPP) to expand so vigorously for a number of years after its establishment in 1968 before it peaked and then declined during the late 1970s?

One possibility is that with the hypothesized substantial decline in desired family size, the resultant gap between actual and desired size would stimulate a considerable increase in demand for family planning services and supplies, which among other things, could have an effect on the willingness of the leaders to support the NFPP more vigorously than they seem to have done during the 1970s. The leaders may also be stimulated to take such action by a renewed sense of concern about the deleterious effects of the country's continued high rate of population growth. Although the birth rate dropped a great deal between 1960 and 1975, some of the decline was offset by a continued fall in the death rate. Furthermore, the rate of population growth was so high in 1960 that, even with a substantial decline during the next 15 years, the rate was still considerable in 1975.

Korea

In Korea, at least some of the reasons for the near leveling off of the TFR during the late 1960s seem to be evident. But the explanation for the deceleration after 1975 is not. During the earlier period, an increase in marriage among women 30-49 years old, as well as an increase in marital fertility of those under age 30, offset declines in marriage among women 15-29 years old and in the marital fertility of women age 30-49. The rise in the marital fertility of younger women is accounted for by a sharp decrease in the first three birth intervals, resulting from increases in premaritally conceived first births (associated

"Figure 1. How Fertility Declines Have Stalled"



Sources: TFRs gathered from various sources, listed in detail in the author's Working Paper, the World Bank, in press.

with a shift from arranged to romantic marriages), declines in the duration of breastfeeding, and an apparently growing desire to terminate childbearing early. The increase in contraceptive use slowed markedly during the late 1960s.

During the late 1970s in Korea, the marital fertility of women 25-29 years old increased a bit, reversing the moderate decline of the early 1970s. Among wives 30-34 years old, fertility continued to fall during the late 1970s, but at less than half the rate of the early part of that decade. By the late 1970s, childbearing had become so concentrated that almost half of the TFR was accounted for by the birth rate of women aged 25-29, and about two-thirds by women age 25-34. The increase in contraceptive use decelerated during the late 1970s and early 1980s (especially the latter period), after the acceleration of the early 1970s. The reasons for these changes have not, however, been identified.

Sri Lanka

The explanation for the fertility stall during the late 1970s in Sri Lanka is also quite limited. A large increase in contraceptive use occurred between 1975 and 1982. Surveys indicate that at least some of the fertility-depressing effect of this contraceptive use increase was offset by an increase in marriage,

which seems to have begun prior to 1978 with improved economic conditions apparently strengthening the rising trend of marriage. A reduction in the long duration of breastfeeding which had been practiced in Sri Lanka would have tended to increase fertility, but the evidence is too meager for one to be confident that such a decline in the duration of breastfeeding actually occurred.

Further Comments About Korea and Sri Lanka

Since the causes of the stalls in Korea and Sri Lanka seem to be more complex and less explicable than those in Costa Rica, one can do little more than offer a few pertinent comments and queries. In both countries, large declines in the percent married have played an important role in bringing about the fall in fertility, and reversals in the decline in marriage have contributed to the stalls. In both societies, celibacy is rare, so the significant variable is age at marriage. Given the large rise in age at marriage already seen in these countries, it seems unlikely that a further significant increase will take place. But what about declines in age at marriage? They have occurred, but apparently only temporarily or with relatively little effect. In the future will the age at marriage fluctuate around the current level, or might it fall considerably?

There is evidence that breastfeeding has been declining in both countries. More detailed and precise measures of the extent and pace of the declines, as well as their impact on fertility, are needed. However, the rapid increases in contraceptive use in both countries may reach such high levels (70 percent or more of women of childbearing age) in the near future as to reduce greatly the potential impact of further declines in breastfeeding. In Korea, but not Sri Lanka, there is a marked preference for sons. There is disagreement, however, about the extent to which son preference is an obstacle to further fertility decline. With a TFR well below 3 children per woman in the early 1980s (hence, not far above the replacement level of fertility), the resolution of this issue in Korea would be particularly helpful in judging the prospects for and pace of a further decline in fertility.

In Sri Lanka, on the other hand, an impressively large proportion of contraceptors continue to use rhythm and other traditional methods. About half of the large increase in contraceptive use from 1975 to 1982 resulted from an increase in the use of these methods. How effective have traditional methods been in preventing pregnancies (and, given the virtual absence of induced abortion, in preventing births) in Sri Lanka, in comparison with the modern methods (pill, IUD, tubal ligation, etc.)? Also, why have so many Sri Lankan women continued to use the traditional methods? Answers to these questions would better enable us to judge the likely future mix of methods and the extent to which such a mix would enable women in Sri Lanka to control their fertility.

No Key Factors

It would be risky to draw general conclusions about the reasons for stalls in fertility declines on the basis of this study in only three coun-

Continued on next page

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tries, even if the explanations for the stalls were more complete and better documented than is the case in this study. Nevertheless, the diversity of the apparent reasons for the fertility stall among the three countries suggests that there may be few, if any, universally applicable factors, and that the means to prevent or overcome stalls will have to be developed on the basis of as complete an understanding of the system of fertility determinants in each country as can be obtained. □

Note

This Demographer's Page is based on a background paper prepared by the author for the World Bank's 1984 *World Development Report*. The full paper will be published in Fall 1985 as part of the World Bank's Working Paper Series.

Employment

Continued from page 2

could happen as skilled blue-collar workers and mid-level managers, who have traditionally filled a "middle tier" of position and salary, are replaced by machines, or by lower paid service-industry employees.

Some writers disagree with the polarization theory, arguing that a closer analysis of trends shows that the two-tier thesis doesn't hold water because the bottom tier itself (laborers, service workers, etc.) is declining as a proportion of total employment; meanwhile the middle-income group is being kept in predominance by the aging bulge of baby boomers (as people age, they tend to become more productive, economically speaking).

Certainly the baby boomers (those born in 1947-1961) represent a wild card in most U.S. demographic speculations; if a two-tier system does evolve, advancement-frustrated baby boomers may cling to the few remaining middle rungs of the career ladder, thwarting in turn the post-baby boomers who follow. The less numerous members of the post-1961 birth cohorts may have fewer problems getting on the

career ladder than climbing it.

In the long run, many futurologists see employment as being more and more a "privilege," contingent on society's ability to spread out available work as widely among the citizenry as possible. Examples of ways to ensure this equitable distribution include the alternatives offered by David Freedman, writing in the *International Labor Review*: reduced working hours per week, part-time work, "cyclic life pattern" (inserting some leisure or study time in the middle of the career years, rather than at the beginning and end).

It's interesting that the more developed countries (MDCs) are having such professed difficulty in providing jobs. Not only are these countries well capitalized for industrial expansion, but they are experiencing extremely low fertility, so that the roughly 17 million people entering the job market each year represent only a small fraction (1.3 percent) of the total MDC population. In the less developed countries (LDCs), by contrast, where four-fifths of humanity live, some 80 million enter the job market annually (2.2 percent of the LDC population).

It's not as though 80 million new factory jobs have to be created in

the LDCs each year (though unemployment and underemployment would be alleviated and the quality of life made possibly more just if that were the case). In fact, most LDC people are absorbed by family agriculture. But, generally speaking, jobs in the LDCs are usually a more serious matter than in MDCs. LDC jobs enable the holder to either produce, or trade for, sustenance (i.e., literally earn a living). By contrast, MDC jobs are in some sense simply a socially sanctioned basis for allocating to the job holder his or her piece of the GNP pie. □

Improved Conditions Necessary for LDCs' Most Important Resource

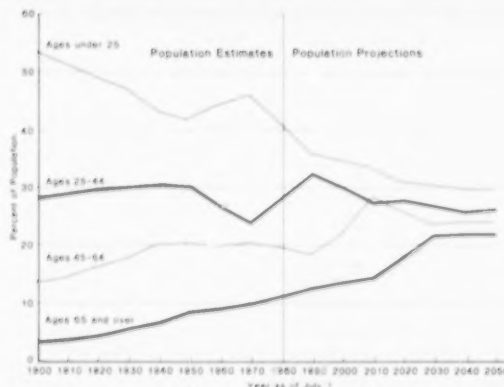
William U. Chandler, the author of "Investing in Children," *Worldwatch Paper 64*, traveled to Africa to research this appraisal of living (and dying) conditions of children in the developing world.

The report, which focuses on the effect of development on children, serves to reemphasize the plight of the poorest of the world. It makes recommendations for reducing in-

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SPEAKING GRAPHICALLY

Trends in Age Distribution of United States Population, 1900-2050



During the 20th century, the U.S.'s age structure has tended to become more even; note the convergence in size of the above age groups. In 1900, the percentage of the population under 25 was 50 percentage points larger than those over 65. By 2050, that gap will narrow to less than 10 percent.

Source: *Statistical Bulletin*, January-March 1984, based on U.S. Census Bureau data.

WORLD FOOD NEWS

While Africa experiences its worst food shortage ever, population pressure is gravely affecting a formerly widespread tropical farming system—shifting cultivation. In a recent report, the Food and Agriculture Organization (FAO) of the UN highlights the serious impact of the demise of shifting cultivation in Africa.

This centuries-old food producing technique, once practiced throughout Africa, involves the selective clearance of forests and woodlands, with the debris then being burned and the ashes used to fertilize fragile topsoils. Cultivation is interspersed with long fallow periods, allowing for the regrowth of natural vegetation and the restoration of soil fertility.

But the FAO report, "Changes in Shifting Cultivation in Tropical Africa," says increased population densities have led to a drastic reduction in fallow periods. This is causing widespread land degradation and resulting in diminished yields of food. Such intensive farming can be sustained only with inputs such as chemical fertilizers, which are well beyond the reach of most of Africa's small-scale farmers. As a result, food production will plummet even more sharply. □

World Food News is prepared by the North American Liaison Office of the Food and Agriculture Organization of the United Nations.

Inter-American Migration Urged

The Assistant Secretary General of the Organization of American States (OAS), Amb. Val T. McComie, recently called for a plan which will challenge the imaginations of country leaders in the Americas: "an organized plan of migration, developed at the governmental level," to facilitate the flow of migrants among the countries of North America, Latin America, and the Caribbean.

Speaking at the Conference of Caribbean Parliamentarians on Population and Development in St. Peter, Barbados, Amb. McComie explained that, as he saw it, a planned migration scheme would allow countries with excess population to find outlets that permit them to remain within optimal conditions to promote their own development, while providing recipient countries with the human resources needed to contribute to their advancement. He urged conference participants to consider such an inter-American migration plan, which he said is designed to distribute more evenly the hemisphere's population so that

the untapped resources of the Americas can be better used for the well-being of coming generations.

The Ambassador said that he did not believe that language, cultural, or racial differences were barriers to the feasibility of such a program. □

Expulsion Movements Continue in Africa

Mass expulsion is one kind of migration. In recent years this kind of population movement has been much in evidence—not only with political expulsions such as Vietnam's boat people, but temporary immigrants who have "outstayed their welcome" as well.

On April 16, the Nigerian government announced it would expel approximately 700,000 illegal aliens, nearly half of them from Ghana. By May, more than 52,000 Ghanaians, unable to legalize their status, had left the country.

Expulsion of non-nationals has been a recurring event in West African coastal states. Last April's action is certainly not the first of its kind. In 1983 Nigeria ejected some 2 million illegal aliens, perhaps half of whom were Ghanaians, and in 1969 a few thousand to perhaps 100,000 Nigerians were expelled from Ghana. □

Population Update

Estimated United States Population:

As of Mar. 1, 1985	238,128,000
As of Mar. 1, 1984	236,009,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 968.

Estimated World Population:

As of June 1985	4,845,000,000
Annual Growth	82,000,000

From data on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: March 1985

Item	12 months ending with March					
	Number			Rate		
	1983	1984	1985	1984	1983	1982
Live births	3,699,000	3,617,000	15.6	15.4	16.0	15.9
Deaths	2,073,000	2,019,000	8.8	8.6	8.6	8.5
Natural increase	1,626,000	1,598,000	6.8	6.8	7.4	7.4
Marriages	2,458,000	2,452,000	10.4	10.5	10.7	10.6
Divorces	1,159,000	1,167,000	4.9	5.0	5.1	5.3
Infant deaths	39,000	39,200	10.5	10.9	11.1	11.5
Population base (in millions)	236.7	234.4	232.1	230.0		

Note: Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census.

Source: *Monthly Vital Statistics Report* (Vol. 34, No. 3) from the National Center for Health Statistics.

Investing in Children

Continued from page 10

infant and child mortality and providing better standards of living for those who survive—who are, after all, the LDCs' most important resource. An investment in today's children, says Chandler, is an investment in the future.

According to the report, about 17 million children die each year, and though rates of mortality have declined, population growth results in as many children suffering and dying today as 20 years ago. Two-thirds of these deaths, Chandler says, could be prevented with relatively simple improvements in primary education, primary health

care, family planning, and peasant agriculture.

Chandler applauds such programs as the highly successful oral rehydration therapy (ORT) which treats diarrhea, but points out that only 10 percent of Third World children have access to it. In addition, less than half of the world's children have been inoculated against major childhood diseases.

The report stresses that female education is an important key to the success of any such program, be it ORT, family planning, or immunization. The negative relationship between literacy levels of mothers and infant mortality rates is distressingly correlative.

Family planning reduces infant

mortality by avoiding the highest-risk pregnancies, Chandler reports. The spacing of children contributes to the health of both mothers and babies.

"Unless developed and Third World governments make major new commitments to improving child health, millions of children will continue to die unnecessarily," Chandler concludes. □

Copies of *Worldwatch Paper 64*, "Investing in Children," by William U. Chandler, are available from the Worldwatch Institute, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036. Single copies are \$4.00 each; 2-5 copies, \$3.00 each, 6-20 copies, \$2.00 each.

OPINION

by Walter W. Haines

There is much debate these days over an appropriate rate of population growth, which is simply a single aspect of the dispute over an optimum level of population. What is too few or too many? Julian L. Simon, as one of the most vocal advocates of high growth, often seems to be saying that output per capita would be greater with a very rapid rate of growth and an apparently infinite ultimate level. But closer reading suggests that this is not really his position.

Consider some fundamental concepts. If there were no people on the earth, there could obviously be no such thing as production. At a slightly higher population level, one self-sufficient person (or family) would be terribly inefficient as a production unit. But at the other end of the population scale, there is some large number of people (a quintillion, perhaps) that would so exceed the physical

limits of the earth that it would be impossible to carry on production of any kind; there would no longer be room to stand. Thus the curve of production per capita is zero for no population at all, and zero for a population of 1 quintillion, while it is positive for a population of a thousand or a billion. Thus there must be some point between zero and infinity where the output per capita reaches a maximum and starts to decline.

We do not know where this point is, and this is the crux of the issue. Most environmentalists believe that we are past it. Simon obviously believes that we have not yet reached it. Putting the discussion in this context emphasizes that it is a dispute over degree, not over fundamental principles, and recognizing this fact is clearly more helpful than simply accepting (or rejecting) Simon's seemingly absolute statement that, regardless of the level of population, "Adding more people will...leave us

with the bonus of lower costs and less scarcity in the long run" (*The Ultimate Resource*, pp. 345-346).

Simon himself does not believe that this is true at all levels. He notes at several points in his book that the real reason why we do not have to worry about population increase is that ordinary people will naturally reduce their fertility rates when they "recognize a reasonable limit" (p. 283). In such a recognition of natural adjustment he appears to accept the thesis of the "demographic transition," probably the most widely held view of population change. More important, the idea that people will react to limits is a contradiction of the assertion that there are none. And it suggests that we might very well want to try to find out where they are.

Walter W. Haines is professor of economics, New York University.

☆☆☆ Population Stars at the Bijou ☆☆☆

The importance of population issues in many commercial motion pictures may not be immediately obvious. Nonetheless, with a little effort, the population (or movie) enthusiast can detect a demographic subtext in many films of today and yesterday. In an incomplete but enthusiastic attempt to glean some of these themes, we have compiled a list of 10 flicks in which population "plays a role," if only a bit part.

Fertility: Older American films were often wont to extoll the virtues of a large family. In *Cheaper By the Dozen* (1950), 12 is considered the most economically efficient number of children to have. And in *Yours, Mine and Ours* (1968) widower Henry Fonda has 10 children yet marries widow Lucille Ball, who comes with eight of her own. Amazingly, the couple links the two families by having a 19th child during their first year of marriage. Both these films are based on true stories.

Mortality: The Academy Award-winning *Amadeus* (1984's Best Picture) presents an engrossing study in life expectancy: Did Mozart, who died at age 35, really miss all that much? Yes and no. Life expectancy in the 18th century was not much higher than 35, due in part to high infant mortality. A very large proportion of Mozart's birth cohort (among others) died in childhood; in fact, Mozart lived long enough to see all four of his own children die. Nonetheless a few people, including Mozart's nemesis Antonio Salieri, lived to a comparatively miserable old age. (The medical services of the day were not much

help at any stage of life.)

Morbidity: *Panic in the Streets* (1950)—the title gets right to the point. In this Elia Kazan thriller, municipal health inspector Richard Widmark chases down a vector of black plague before it can sweep through New Orleans.

Nuptiality: Changing roles within marriage and child care issues are explored in *Kramer vs Kramer* (1979). Ignored by her workaholic husband, Mrs. Kramer leaves him and their son to forge a life of her own. Mr. Kramer can no longer devote himself body and soul to his job and is forced to change his life style. On the wife's return, a tear-jerking legal custody battle (see title) ensues.

Migration: *El Norte* (1984), an episode of international and illegal migration, tells the story of a young brother and sister who are forced to leave Guatemala and struggle to reach the U.S. The young man makes good as a waiter until he is turned in by a fellow worker who feels his job is threatened by the illegal immigrant. The young woman adapts slowly to her job as a maid; baffled by household technology, she ends up washing clothes in a birdbath.

Sex differentials in assimilation are widespread because men participate in the public sector more often than women. In *Hester Street* (1975), a young Orthodox Jewish couple migrates in the 1870s to the Lower East Side of New York. The husband adapts quickly to modern American ways, but the wife is reluctant. While

a movie's happy ending often depends upon compromise, in this film the wife is the victor because she sticks up for traditional values and the life style she believes in so strongly.

Age and Sex Composition: Although it may originally have served as a saccharine excuse to unite the Fondas and Katharine Hepburn onscreen, *On Golden Pond* (1981) provides a positive view of the elderly, and their relationships with their spouses and their children. The characters' affluence narrows the movie's applicability, however.

The producers might not have intended it, but high fertility and a broad-based age pyramid are major "characters" in *Pixote* (1981). This graphic Brazilian movie depicts cities (Rio and Sao Paulo) where mushrooming favelas and obscene wealth exist side by side and hordes of homeless children are exploited by corrupt adults, including the police.

Population Change: The least subtle of demographic movies must be *Soylent Green* (1973), a film that might as well have been dedicated to Thomas Malthus. In the not-too-distant future, the 40 million inhabitants of New York City are faced with overpopulation and resource scarcity. Fortunately for them, there's a mysterious factory that produces tasty food tablets (the title product) of uncertain origin. At the climax, the nature of this sustenance is finally revealed to a shocked Charlton Heston: recycled people.

—reviewed by Janine Adams
and Margaret Greene



Charlton Heston and Paula Kelly in *Soylent Green*; Tom Hulce as *Amadeus*.

SOFTWARE

DEMO-GRAPHICS is a personal computer program that graphically demonstrates population dynamics. It allows the user (who can be a teacher or student) to project on the screen an almost infinite variety of country-population graphs, charts, and demographic profiles, by responding to menu questions. It is especially suited for drawing age pyramids and plotting population change over time. And it contains demographic data for most of the world's countries, which can be plugged into the demonstrations.

DEMO-GRAPHICS was developed by the Population Dynamics Groups at the University of Illinois at Urbana-Champaign. It is available as follows:

IBM-PC version requires at least 128K of RAM. Available (with backup and documentation) for \$95.00 from COMPRESS, P.O. Box 102, Wentworth, N.H. 03282.

Apple II version requires at least 48K of RAM, Applesoft in ROM. Available (with documentation) for \$85.00 from CONDUIT, P.O. Box 388, Iowa City, Iowa 52244.

POSITIONS/ PROFESSIONALS

Positions open in population-related fields will be published in *Population Today* on a space-available basis. Send information to Positions/Professionals, PT, Population Reference Bureau, 2213 M St. N.W., Washington, D.C. 20037.

Research Associate, Family Health International, to manage projects in maternal and child health care. PhD in maternal-child health, biostatistics, sociology or demography, or masters degree with several years relevant experience. Sound knowledge of statistical methods; demonstrated written and verbal communications skills required. Send resume to: Personnel, Family Health International, 1 Triangle Dr., Research Triangle Park, N.C. 27709. An equal opportunity/Affirmative Action Employer, M/F/H.

TAKE A NUMBER...

New Data Sheet on India: For just \$2.00, one can obtain a wallchart giving about 1,400 numbers on India, its 22 States and nine Union Territories. Prepared by Prof. S.B. Mani of Slippery Rock University, the chart was produced with the cooperation of the Madras Communications Institute and is planned as an annual publication.

Modeled on PRB's *Data Sheets*, the chart gives 1981 Census populations, vital rates, area and density, age structure, contraceptive prevalence, literacy and other data in its 46 columns. For information write: Dr. S.B. Mani, 216 Kelly Blvd., Slippery Rock, Pa. 16057. Inside India, write: Madras Communications Institute, 23 21st East St., Kamraj Nagar, Madras 600 041, India.

Manufacturing Data: Sometimes it seems that the U.S. Census Bureau has data on *everything*. The 1982 Census of Manufactures reveals facts about U.S. industry you probably never dreamed existed. Did you know that there were 215 establishments making artificial flowers in 1982? That nearly as many people are employed making aircraft as automobiles (561 million vs. 616 million)? In addition, were you aware that from 1977 to 1982

the number of firms making small arms went up from 112 to 139, and milk producers declined from 1.9 to 1.2 million? To someone somewhere, this kind of detail must be vital.

Effects of Life Expectancy: The future aging of the United States is a much-discussed issue among demographers. The Census Bureau's population projections supply the basic numbers. The "middle series" projections show the age 65 and over group rising from 29 million in 1985 to 73 million in 2080; these projections assume that life expectancy will rise from about 75 years at present to 81 by 2080. To some, that may seem a conservative rise in life expectancy over nearly a century. What if the increase in life expectancy is in fact greater than that? Should it increase to about 86 by 2080, the 65-and-over group would number 88 million, 15 million more than the middle series. Most of this difference would be in the oldest of the elderly, those 85 and over. This group, which stands at 2.7 million in 1985, is projected to number 18 million under the more conservative middle series, but 29 million assuming the greatest increase in lifespan. As always, when considering future populations, it pays to look at more than one set of assumptions.

...addenda

Momma



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CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in *Current Readings*. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

THE PROBLEM OF IMMIGRATION, edited by Steven Anzovin. (*The Reference Shelf*, Vol. 57, No. 1.) New York: H. W. Wilson, 1985. 156 pages. \$8.00

This compilation consists of 16 reprinted articles and essays about immigration from such sources as *Atlantic*, *Newsweek*, *The Humanist*, and *Natural History*. Primarily focusing on the U.S., it examines the effects of immigration here, as well as illegal immigration, refugee policy, and the debate about immigration reform. The fifth and final section concentrates on the international aspects of migration.

A fair balance of perspectives is represented in this nontechnical book. Some of the articles are written by journalists, while others present the viewpoints of population specialists, such as Julian Simon and PRB's Leon F. Bouvier. No one viewpoint is favored. This volume will provoke the reader's thoughts, and could well be the source of lively discussion.

—Janine Adams

THE NEW AMERICAN POVERTY by Michael Harrington. New York: Holt, Rinehart & Winston, 1984. 271 pages. \$17.95.

The changing international economy and the resultant transformation of the American labor market have created intransigent structural poverty in America according to this work, which begins with the Johnson years, but focuses primarily on the Reagan Administration.

Harrington contends that the Reagan budget cuts of 1981 made it difficult to qualify for food stamps and Medicaid, and that as a result of a low minimum wage, many families could not afford basic necessities. The Reagan Administration by its own best estimates states that unemployment will be around 8 percent (10 million people) for several years to come. According to the Congressional Budget Office 3 million workers will be "dislocated" in the 1980s.

As this book points out, women and teenagers are the most vulnerable to poverty. Women are mired in low-paying jobs, a major reason for the feminization of poverty, while the young get rejected

by the labor market before they have a chance to join it. Black teenage unemployment is five times higher than the overall rate for teenagers, virtually denying them their right to work. Harrington speaks of the prospect of their becoming "superfluous people."

—Alexander von Cube

THE HUNDRED PERCENT CHALLENGE: Building a National Institute of Peace: A Platform for Planning and Programs, edited by Charles Duryea Smith. Cabin John, Md.: Seven Locks Press, 1985. 256 pages. \$16.95; \$9.95 paper.

The United States Institute of Peace was created by Congress in 1984 to address peace research and devise outreach educational objectives toward peace among nations. The Institute will function as a research center and as a national endowment for peace, much like the national endowments for the arts and sciences.

This book provides a cogent introduction to the study of peace resolution. An excellent essay on Just-War tradition by David Little describes the state of the art of conflict resolution, tracing church doctrine of the middle ages all the way to current deterrence strategies. Ronald Scheinman discusses forced migration and refugee movements as threats to peace from a national security perspective. Kenneth Boulding provides a critical analysis of peace research. He observes that war begins with a shift in what is considered taboo (in terms of doing harm), and that basic concepts of threat and military beliefs might be changed only by "...enough evidence that the existing dogma of national defense is a guarantee of human destruction." The other parts of the book provide a history of the genesis of the founding of the Institute under the chairmanship of Sen. Spark Matsunaga, the vision of its proponents, and its legislative charter.

—Alexander von Cube

PUBLICATIONS RECEIVED

THE ARAB WORLD: An International Statistical Directory, by Rodney Wilson. Boulder, Colo.: Westview Press, 1984. \$42.50.

THE AGING: A Guide to Public Policy, by Bennett M. Rich et al. Pittsburgh: University of Pittsburgh Press, 1984. 275 pages.

THE BRITISH FERTILITY DECLINE: Demo-

graphic Transition in the Crucible of the Industrial Revolution, by Michael S. Zeitbaum. Princeton, N.J.: Princeton University Press, 1984. 269 pages. \$40.00.

CENSUSES OF ASIA AND THE PACIFIC 1980 ROUND, edited by Lee-Jay Cho et al. Honolulu, Hawaii: East-West Population Institute, 1984. 380 pages.

DEMOGRAPHY: The Study of Human Population, by David Yaukey. New York: St. Martin's Press, 1985. 352 pages. \$23.95.

DOWN TO BUSINESS: Multinational Corporations, the Environment, and Development, by Charles S. Pearson. Washington, D.C.: World Resources Institute Study 2, 1985. 107 pages. \$3.50.

THE GAP BETWEEN RICH AND POOR: Contending Perspectives on the Political Economy of Development, edited by Mitchell A. Seligson. Boulder, Colo.: Westview Press, 1984. 418 pages. \$42.00.

THE GLOBAL FACTORY: Foreign Assembly in International Trade, by Joseph Grunwald et al. Washington, D.C.: The Brookings Institution, 1985. 259 pages. \$10.95.

IMMIGRATION: The Beleaguered Bureaucracy, by Milton D. Morris. Washington, D.C.: The Brookings Institution, 1985. 150 pages. \$8.95.

IRELAND: A Directory, 1985. Dublin: Institute of Public Administration, 1984. (Distributed by Gale Research Co., Detroit, Mich.) \$65.00.

LAW, SOCIETY, AND POPULATION: Issues in a New Field, by Larry D. Barnett et al. Houston, Tex.: Cap & Gown Press, Inc. 1985. 185 pages.

MUSLIM PEOPLES: A World Ethnographic Survey (two vol.), edited by Richard V. Weekes. Westport, Conn.: Greenwood Press, 1984. 953 pages. \$95.00.

NUTRITIONAL SURVEILLANCE, edited by John B. Mason, et al. (Cornell Nutritional Surveillance Program). Geneva: World Health Organization, 1984. 194 pages.

PROGRAMS IN AID OF THE POOR, by Sar A. Levitan. Baltimore, Md.: The Johns Hopkins University Press, 1985. 154 pages. \$17.50.

RURAL DEVELOPMENT AND HUMAN FERTILITY, edited by Wayne A. Schutjer and C. Shannon Stokes. New York: Macmillan, 1984. 318 pages. \$38.50.

TOO MANY, TOO LONG: Sudan's Twenty-Year Refugee Dilemma, by John R. Rogge. Totowa, N.J.: Rowman & Allanheld, 1985. 195 pages. \$34.95.

U.S. IMMIGRATION POLICY, edited by Richard R. Hofstetter. Durham, N.C.: Duke University Press, 1984. 310 pages. \$28.75.

WHO PAID THE TAXES, 1966-1983, by Joseph A. Pechman. Washington, D.C.: The Brookings Institution, 1985. 84 pages. \$24.95.

WOMEN OF THE WORLD: Asia and the Pacific, by Nasra M. Shah. Washington, D.C.: Bureau of the Census, 1985. Data User Services Division, Customer Services (Publications). 141 pages. \$5.50.

WOMEN OF THE WORLD: Near East and North Africa, by Mary Chamie. Washington, D.C.: Bureau of the Census, Data User Services Division, Customer Services (Publications). 195 pages. \$5.50.

The following is the correct citation for a book listed in the May 1985 PT:

POPULATION AND RELATED ORGANIZATIONS: International Address List, by Ruth Sandor and Jane Vanderlin. New York: Association for Population/Family Planning Libraries and Information Centers-International (APLIC); distributed by the Population Council Library (New York), 1984. \$45.00; additional copies, \$20.00.

SPOTLIGHT

PAKISTAN

Population, 1985 (est.): 99.2 million
 Births per 1,000 pop. (1984): 43
 Deaths per 1,000 pop. (1984): 15
 Land area: 310,527 sq. miles, not including disputed Jammu and Kashmir
 Percent of population aged 15 and under (1984): 44
 Percent of population aged 65 and over (1984): 3
 Population rank in world (1985): 9
 Infant mortality rate: 105 infant deaths per 1,000 live births
 Life expectancy at birth: 51 years
 GNP per capita (1983): US\$390
 Capital: Islamabad

The Islamic Republic of Pakistan borders on India, Iran, Afghanistan, and China. Its population is concentrated around Karachi on the Arabian Sea, and in the crescent formed by Lahore, Rawalpindi, and Peshawar. Pakistan was a British colony, part of the Indian subcontinent until Partition in 1947, when Britain gave Pakistan (East and West) and India their freedom. Although Pakistan is not a theocracy, the military government turns to traditional Islam for affirmation of its authority. Its martial law regime, established in 1977, is headed by President Ziaul Haq.

As recently as the last century, Pakistan had a complex ecosystem with tropical thorn and evergreen forests. Herding is a foundation of life for the predominantly rural population, and this, along with the chopping of trees for firewood, has led to soil erosion, reducing Pakistan's vegetation to semi-desert scrub. The presence of nearly 3 million Afghan refugees has increased the stress on the environment.

The issue of ethnic versus national solidarity has been a thorn in Pakistan's side since independence. Bengali-speaking East Pakistanis felt they did not have equal power in their country whose official language was Urdu, and whose capital was in West Pakistan. East and West Pakistan end-

ed up in armed conflict; India, with Bengalis sympathetic to East Pakistan, joined in the struggle. The result was the formation of Bangladesh in 1971.

Pakistan's current provincial tensions and linguistic nationalist movement illustrate a problem faced by many countries in which ethnic and national boundaries do not coincide. The main linguistic and ethnic groups are Punjabis, Sindhis, Pathans, and Balochis. Pakistani Pathans identify most closely with the Pathans of southern Afghanistan, while Balochis in the southwest of Pakistan are most often in sympathy with Balochis in Iran.

Regional and ethnic conflict is exacerbated by the low rate of literacy and the low status inflicted on certain of the ethnic groups in Pakistan. Only 7 percent of the population speaks Urdu, the official language, 64 percent speak Punjabi, 12 percent Sindhi, 8 percent Pushtu, and the remaining 9 percent speak a variety of other languages. Not all of the languages have their own writing systems; most people must learn a second language in order to read about national affairs.

Pakistan has problems typical of many developing nations: a low per capita income, a large and growing population, and a highly stratified traditional society. In 1981, doctors, engineers, and craftsmen were in short supply, but there was a surplus of 300,000 agricultural workers. Agriculture makes up 30 percent of

the Gross National Product and employs 55 percent of the work force. Bridging the gap between economic strata is difficult because of the low level of literacy; 77 percent of the labor force was illiterate in 1981. The illiteracy rate for women is higher still.

In Pakistan's sixth Five Year Plan, begun in July 1983, the government acknowledged for the first time the extremely poor conditions for women as indicated by literacy, health, and fertility. The average Pakistani woman bears children from the start of an early marriage until menopause, during which time she may experience between 10 and 15 pregnancies. The total fertility rate is 6.4 average births per woman. Women's self-esteem is derived mainly from having many children, sons above all. The government is ostensibly trying to help women, but funding for women's programs during the Five Year Plan was cut from 5 billion rupees to 400 million rupees; in addition, religious orthodoxy and bigotry work against women even from within the government.

Economic growth has been good in recent years, but agricultural growth is a result of increased acreage rather than yield per acre. Former President Bhutto encouraged large-scale emigration to the Arab Gulf States, which has increased the income of many Pakistanis, though it has left many women to head their families alone.

Pakistan boasts the largest irrigation system in the world, based on dams in the Indus valley. The main crops are wheat—the country is nearly self-sufficient—cotton, rice, and sugarcane. Unfortunately, the grain surplus predicted for this year was eliminated by unseasonable heat in January and February. As a result, Pakistan may well be obliged to import massive quantities of wheat. □

This Spotlight was prepared by Margaret Greene, Population Education Specialist at PRB.



Woman is Mother: Heaven lies under her feet.
 Woman is Daughter: She is God's blessing.

Women are only half the race of men.
 men flourish and die, but women
 have power in all kinds of life.
 Woman is worthy of respect

POPULATION
 WELFARE PROGRAMME

Ad in *The Muslim*, Islamabad, 1985.

POPULATION TODAY

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Some of the 11,000 women who traveled to Nairobi, Kenya, for the non-governmental Forum '85. See page 2.

Forum '85: 11,000 Discuss Women's Future

by Karen White

At Nairobi, Kenya, in July, some 14,000 women from 150 countries met to mark the end of the UN Decade for Women (1976-1985). Official government delegations convened at the UN Decade for Women conference (see box, page 8). Meanwhile, at Forum '85, women from nongovernmental organizations conducted their own assessment of progress made during the Decade that has just come to a close. One of the attendees: Karen White, Project Information Coordinator for



Karen White

the International Center for Research on Women, in Washington, D.C., who served as PT's farflung correspondent and has filed this report:

Jambo! This was the Ki-swahili greeting heard all over Nairobi as 11,000 participants gathered for Forum '85, the final nongovernmental forum of the UN Decade for Women. Held at the University of Nairobi from July 10-19, the Forum

One of many conference panels

overlapped with the official UN World Conference on Women July 15-26, but allowed a more lively and free exchange of ideas and experiences. As Dame Nita Barrow of Barbados, convener of the Forum, said, "The women on whose backs all civilization and commerce have depended... are here today... It is a meeting of the minds of women. You are having the first taste of a glorious adventure."

The first forum took place at the UN International Women's Year Conference held in Mexico City in 1975 when more than 6,000 women representing themselves or nongovernmental organizations participated in the Tribune. Five years later, 8,000 women attended Forum '80, which ran concurrently with the UN Mid-Decade Conference in Copenhagen. Forum '85 continued the work of the earlier forums on the themes of equality, development, and peace; its special mission, however, was to discuss the achievements and obstacles to progress of the past decade and to formulate strategies for the next 15 years.

Attendees met at hundreds of informal panels on topics ranging from the problems of disabled women to the effects of the Lebanese war on women. It became evident from the content of the panels that great strides have been made in the field of women in development since the 1980 conference. For one thing, the field seems to have moved away from the descriptive stage, in which women's roles were described and the demand for development aid justified, toward the strategic stage, in which mechanisms for effectively integrating women into development programs and projects are formulated and tested. A general consensus seems to exist that most governments are now aware of women's economic roles but lack the political will, knowledge, or resources to implement projects that address these roles.

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Policies Urged to Relieve Burden of Caregiving for U.S. Elderly

Demographic trends are jeopardizing the future of family care for the elderly and policies that ease the caregiving burden are needed to fill the gap, says sociologist Alice T. Day. In PRB's latest issue of *Population Trends and Public Policy*, Day examines the relationship between the disabled elderly and their caregivers and the social changes that are reshaping family roles and altering the nature of aging in the U.S.

Families—not government or agency programs—provide 80 to 90 percent of the personal care for elderly Americans. As of 1985 an estimated 1.4 million elderly Americans live in nursing homes and another 5.2 million, though saddled with disabilities that leave them in need of help with day-to-day tasks, live in the community. Eighty percent of care for the disabled elderly living in the community comes from family members—mainly wives and daughters.

Yet trends in life expectancy, the age make-up of the population, women's labor force participation, and delayed childbearing threaten to put serious pressure on families' ability to provide care in coming years.

More Americans are living past their 85th birthday, making the 85+ age group the fastest growing segment of the U.S. population. This age group is most likely to develop long-term illnesses that leave them disabled in some way and in need of home care. The number of disabled elderly Americans is expected to more than double between 1985 and 2020.

At the same time the proportion of elderly-over-85 to offspring is growing and is expected to continue to grow in the 1990s. Families now stand a greater chance than ever before of having a disabled elderly relative to support. The proportion of men 65 and older with one or more surviving parents is expected to increase from 7 percent in 1975 to 28 percent in 2015. In other words, more than one-quarter of senior-citizen men will have senior-citizen

parents, a development likely to affect retirement plans.

Most of the caregivers are women—after a spouse, daughters are the first choice to serve in the caregiving role. Yet more working women today are in their 50s and are not home to care for elderly disabled relatives; by 1990 over 60 percent of women aged 45 to 54 are expected to be in the labor force as compared to only about 35 percent in the early 1950s. A 1976 study found that households where the woman worked were more likely to seek institutionalization as an alternative to home care.

Women today are also having their fewer children later in life, increasing the possibility that they may be faced with the competing demands of children at home, the needs of a disabled parent, and a job.

Many of the caregivers are themselves aging. The majority of off-spring caring for a disabled elderly parent are over age 50. The average age of spouses caring for a disabled partner is 66 (more than 30 percent are over age 74).

Is Home Care the Answer?

Finally, rising health care costs compound the demographic challenges to family care. It is estimated that unless attempts are made to control increasing medical costs and curtail cutbacks in Medicare and Medicaid, the share of the health care costs paid by the elderly themselves will increase twice as fast as their incomes. In 1984, the elderly began to use more of their income for health care than before Medicare and Medicaid were developed. According to Day, much of the additional expenses will probably fall upon families that already sustain many hidden costs, including home modifications, rented equipment, higher heating bills and the "opportunity" costs to women who give up employment to care for disabled elderly.

All these trends point toward a

greater need for elderly care—and decreasing resources to facilitate that care.

Although it is less costly to care for all but the most severely impaired elderly in the home, government programs and policies do little to support home care. Existing home care programs serve only a fraction of the disabled elderly and are difficult to gain access to because their authority spans the federal, state and community level. Tax credits for caregivers holding jobs allow only \$2,400 to be deducted, far below the actual costs of adult day care.

Continued on next page

House, Senate Agree on Foreign Aid Authorization

The foreign-aid authorization bill for Fiscal Year 1986 ran the congressional gauntlet in July and was signed into law Aug. 8 by President Reagan. This marks the first time in four years that the foreign aid bill has made it through both chambers of Congress (stopgap financing measures were used in the past three years since policy disputes deadlocked Congress). However, the fate of the actual FY 1986 appropriation (the funds that fulfill the authorization) will not be known until sometime this fall.

So far, the House Appropriation Committee has approved a population budget of \$261 million—a 10 percent decrease from FY 1985, in line with (and less than some other) across-the-board budget foreign aid cuts, which follow House attempts at fiscal austerity. (The administration had asked for \$250 million.) The Senate will not take up the matter until it comes back from summer recess; population-law watchers expect that when an appropriation is passed, it will be somewhere in the \$261 million area.

The efforts of Rep. Chris Smith (R-N.J.) and others to include restrictive policy language barring funds for the UN Fund for Population Activities in the authorization

Continued on page 5

FROM THE EDITOR'S DESK

What's a big audience? 500 million? 1 billion? According to press reports, July's multi-continent Live Aid concert for Africa drew 2 billion television spectators worldwide, prompting one political pundit to grumble that he felt the star-spangled 1984 Olympics (with an audience estimated at upwards of 1.7 billion) should have had the larger audience, especially considering how discordant rock 'n roll music was, in any case.

But—leaving aside for a moment the salutary effects of Live Aid's charity, its *raison d'être*—what's in a number? 100 million peace marchers, 10 million soldiers, 100,000 demographers—those are daunting figures, representing sizable populations committed in mind and body, forces to be reckoned with. But 2 billion couch potatoes? Scarcely worth getting stage fright over.

—Art Haupt

Caregiving for Elderly

Continued from previous page

Day is critical of attempts to shift the Medicaid costs of the institutionalized elderly onto families. The demographic characteristics of the nursing home population reveal that almost half have no adult children and a large portion are suffering from disabilities (e.g., senile dementia) that are difficult to care for at home. Says Day, "Forcing adult children and relatives to contribute a greater share of financial support assumes, contrary to all available evidence, that families do not help as much as they can or that family members (many of whom are elderly themselves) can afford the extra financial drain."

Day rejects arguments that the United States is spending on the elderly today at the expense of programs that benefit children. She asserts that investment in the aged not only helps the elderly, it indirectly nurtures the families of which older people are members. □

Copies of "Who Cares? Demographic Trends Challenge Family Care for the Elderly" (16 pages) are available for \$3.00 per single copy; 2-10 copies, \$2.30 each; 11-50 copies, \$1.90 each; 51 or more, \$1.50 each. Orders of \$20 or less must be prepaid and include \$1.00 for postage and handling. Send order and remittance to Circulation Dept., PRB, P.O. Box 35012, Washington, D.C. 20013. Checks payable to PRB.

SURVEY REPORT

Ivory Coast WFS

Ivory Coast (or Cote d'Ivoire) has made available the results of the World Fertility Survey (WFS) taken there in 1980/1981. Living in the northern part of sub-Saharan Africa, Ivory Coast's 8.9 million people occupy some 125,000 square miles of land (about the size of New Mexico). The population is growing rapidly: the survey results indicate a growth rate of between 3 and 4 percent per year—a function of both immigration and high fertility.

Indeed, among all 41 countries participating in the WFS, Ivory Coast exhibited higher fertility rates than all but four nations. The survey estimated a total fertility rate (TFR), or average number of children born to each woman, of 7.4, based on fertility rates documented between 1975 and the survey date. A major contributor to the country's high fertility is early age at marriage, and Ivory Coast brides, who marry on average at the age of 18, are among the youngest in the world.

When asked how many children they desired, the responses from currently married women averaged 8.5. This average is exceeded only by that of Mauritania among the 40 other WFS countries. Only 4 percent of the married women who were able to bear children wanted no more, and of those, 97 percent were using some form of contraception.

This desire for large families explains the general lack of interest in contraception on the part of Ivory Coast women. Their lack of interest becomes apparent in cases where awareness and past use are high, but present use of any contraceptive method is nil. Modern values associated with education and work should increase contraceptive use, but in the short run, the abatement of traditional restraints on childbearing (i.e., abstinence and prolonged breastfeeding) may result in even higher fertility among modernizing Ivory Coast women. □

Women Outvote Men in '84

The U.S.'s 1984 election marked the first rise of voter turnout (up 1 percentage point) for a presidential election since 1964, according to a Current Population Survey conducted by the U.S. Census Bureau; 60 percent of voting-age respondents reported that they had voted, up from 59 percent in 1980. Heretofore, the trend had been one of steady, gradual decrease, with voter turnout down a total of 10 percentage points since the 69 percent turnout of 1964.

The cause of the upturn? increased voter participation among women. The proportion of women voting rose by 2 points since 1980 to about 61 percent. The men's percentage stayed at 59 percent. The 1984 presidential election marks the second time around (1980 was the first) that women's voting participation outranked men's, albeit by a small percentage. (Until recent times, males were the most active participants in presidential elections by a significant margin.) □

Frank Lorimer 1894–1985

Frank Lorimer, one of the world's preeminent demographers, died June 23 in Wakatane, New Zealand, where he was working on a philosophical treatise, "The Challenge of the Global Crises."

Demographer and sociologist, Lorimer was a founding member of the Population Association of America, and served as its president in 1946-1947. He was also a past president of the International Union for the Scientific Study of Population.

Lorimer's contributions to the field were diverse, ranging from his early interest in eugenics to group differences in fertility to population policy. Perhaps best known for his *Culture and Human Fertility* (1954), he was also an expert on the population of the Soviet Union, and later developed an interest in the demography of African populations. □

FSU Adds Demography Master's Degree

One more name has been added to the list of schools offering graduate degrees in demography. Beginning this fall, the Florida State University (FSU) Center for the Study of Population will be offering a new program leading to a Master's of Demography. This will not affect or replace the PhD programs which FSU will continue to offer.

Students going through the program will complete a five-course core focused on the theory and techniques of demography and basic statistics, and take three demographic electives designed to make them knowledgeable of the latest research and developments in the field. Each student will also be required to take three electives from outside the Center to integrate demographic skills and creativity with traditional areas (such as planning and policy development or business) which are making increasing use of demographic data, techniques and findings. The final requirement of this two-year program is the completion of a research paper.

Interested candidates should contact David F. Sly, Director, Center for the Study of Population, the Florida

State University, Tallahassee, Fla. 32305-2011 for application and further information. Financial assistance is available. □

Capitol Hill

Continued from page 3

bill for FY 1986, as well as those of Smith's counterparts in Congress who opposed his proposed amendments, were ultimately for naught. The conference committee which reconciled the House and Senate versions of the bill threw out all policy language, settling for setting funding levels only.

Before his efforts were negated in conference committee, Rep. Smith had been, for the most part, successful in the House, where amendments were passed which contained strong language regarding coercive abortion policies in China, and the UNFPA's involvement there.* In addition, Rep. Smith succeeded in stopping the proposed blockage of the implementation of the U.S. Mexico City population policy language. In the Senate, unlike

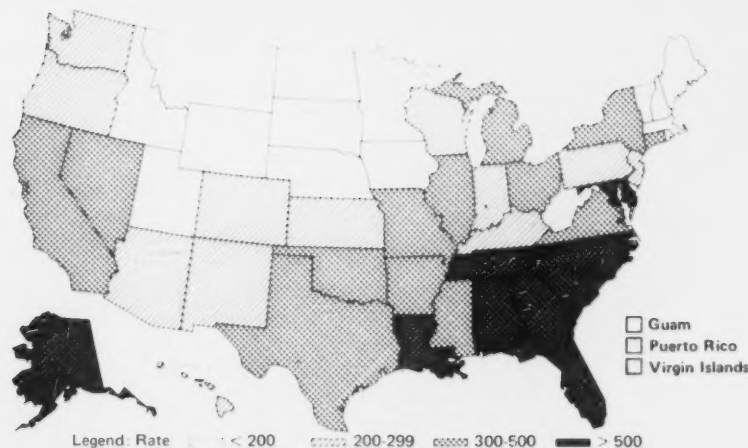
**Before visiting the U.S. in July, Chinese President Li Xiannian made a point of bringing up, and condemning, congressional denunciations of China's family planning program. He called them "entirely based on fabrication and distortion" and "absolutely unacceptable."*

the House, Sen. Nancy Kassebaum (R-Kan.) was successful in her attempt to block the Mexico City language. Also, Sen. Jesse Helms (R-N.C.) passed an amendment which would restrict funds to any country or organization funding a country which takes part in coerced abortion or infanticide.

Again, as a result of conference committee action, these amendments are merely a matter of record, and will not become actual policy. The only policy-related language which will probably be included as a part of the appropriations bill for FY 1986 was added during the mark-up of the bill. This language, which prohibits funding to any group which participates in the management of a program of coercive abortion or involuntary sterilization (but places the responsibility on the President to make an official determination for denying funding) is very similar to the amendment to the Supplemental Appropriations bill for FY 1985 sponsored by Rep. Jack Kemp (R-N.Y.), as amended by Sen. Daniel Inouye (D-Hawaii) and Helms (see July/August PT). □

SPEAKING GRAPHICALLY

U.S. Gonorrhea Cases per 100,000 Population, 1983



In 1983, reported cases of gonorrhea decreased by 6.3 percent nationwide, from 960,633 in 1982 to 900,435, and declined throughout the country. The case rate per 100,000 also declined, from 417.9 to 387.6, with the South Atlantic region's rates the highest (see map above). Source: *Morbidity and Mortality Weekly Report* (Annual Summary 1983). Vol. 32, No. 54, December 1984.

LETTER TO THE EDITOR

To avoid perpetuating an error that occurred in the Census Bureau's *Current Population Reports*, please note for your readers that the Supreme Court decision legalizing abortion came in 1973, and not 1970 as suggested in the figure "Number of Births, by Year, 1910 to 1984, and Relationship to 1984 Age Groups," reproduced from the CPR in the "Speaking Graphically" department of *Population Today* (June 1985). The sharp downturn in births that began in 1971 may relate to the 1970 economic recession. It was not restricted to states in which abortions had already been legalized, as only South Carolina failed to register a drop in its birth rate in 1971. The effect of the abortion decision, when it came, was attenuated by delays in its implementation, and is not identifiable in the figure.

Sincerely,
David P. Smith
Assistant Professor
School of Public Health
University of Texas
Houston

DEMOGRAPHER'S

Population Articles in Popular Magazines

by David Yaukey

Demography has a stake in spreading its knowledge over as broad a citizenry as possible. At least that's the premise behind this quick-and-dirty market analysis. If that premise be accepted, then the medium of popular magazines is one demographers should consider to impart their messages.

So the question here is: How is demography treated in popular magazines? How many articles actually are being published? What kinds of magazines publish them? Which of the demographic topics are editors' favorites? Who does the writing?

The Population of Articles

Probably the best known index of popular magazines in the U.S. is the *Readers' Guide to Periodical Literature*. Its Prefatory Note describes the Guide as an index to periodicals "of general interest published in the United States," and it currently includes 196 publications. Many of the periodicals are really quite specialized, either in terms of their targeted readership (*Ebony*, *Teen*, *Working Woman*) or the topics they cover (*Audubon*, *Car and Driver*, *Nation's Business*). Apparently the most unifying trait is not the generality of their interest but rather the size of their readership.

Some exclusions should also be noted. Not even the most popularized demographic periodicals appear; not *American Demographics*, nor the *Population Bulletins* published quarterly by the Population Reference Bureau, nor the Population Council's *Population and Development Review*, nor *Family Planning Perspectives* from the Alan

Matrix: Article Topic by Magazine Type

Magazine Type	Article Topic*											Tot
	Gr	St	Co	Mo	Fe	BC	Fa	Mi	Ur	Ot		
General Interest	4	2	1	5	2	12		24		1	51	
Special Interest, by Reader Category												
Women				1	3	7	1				12	
Men											0	
Young							1				1	
Old											0	
Ethnic & Other											0	
Special Interest, by Topic Category												
Science	4			6	4	3	1	1			19	
Diplomacy	4					1		3			8	
Business/Labor	3		1					1		3	8	
Nature/Ecology	2			1	2				1		6	
Religion				2		2	1				5	
Other	3			6		1		2	1		13	
Total	20	2	2	21	11	27	3	31	2	4	123	

*Gr = Size and growth

St = Age-Sex Structure

Co = Composition, other than age/sex

Mo = Mortality and morbidity

Fe = Fertility, other than birth control

BC = Birth control, including abortion

Fa = Family and Marriage

Mi = Migration

Ur = Urbanization

Ot = Other, dominantly general demographic description and data

Guttmacher Institute. Indeed, there is no magazine title that aims at population as a topic or students of population as an audience.

At my request, the University of Massachusetts Library did a computer search for pertinent recently indexed articles. Specifically, they listed all articles and book reviews shown in the *Readers' Guide* as being published in the year April 1, 1984, to April 1, 1985. One year, I anticipated, would yield a list short enough for my personal qualitative coding. The year chosen not only had the advantage of being recent, but also, one would have thought, it was a good year for demographic news: the International Conference on Population was held in Mexico City, the Simpson-Mazzoli immigration bill was being debated and voted in Congress, a presidential campaign had aired national issues.

In generating a computer search, one has to choose pertinent words from a thesaurus developed for the data file. The list I provided, which

included 21 words, did not weave a perfect net, it turned out. Missing from the catch is Samuel Preston's "Children and the Elderly in the U.S.," published in *Scientific American* in December 1984. There may be other omissions, but well over two hundred titles were netted.

Among these I found a total of 186 that I judged to imply demography. Of these, about one-third had no authors listed; I eliminated these (along with book reviews) from further analysis on the assumption that they must have been short and not especially authoritative. Thus we are left with 123 bylined articles.

Type of Publishing Magazine

The table above is a matrix tallying the 123 articles on a combination of type of magazine and topic of article.

Let us first deal with type of magazine. In setting up a classification scheme, I started with the table of contents of the 1985 *Writer's Market*. After some informal pretesting, I

combined categories to form classes that were narrow enough to be described yet were also likely to have received some articles. These classes are listed on the matrix, in the left-hand column.

The category of magazine containing the most population-related articles by far was "general interest." Among the topic-defined special interest magazines, the science magazines were the dominant home of demography articles. Of those special interest magazines aimed at a specific readership, women's magazines featured the most population articles. Interestingly, business and labor magazines appeared indifferent to demography. To interpret some of these findings, it will help to pay attention to the topics of the articles.

Article Topic

I designed the topic classification scheme to be exhaustive of population studies. The only intentional concession to anticipated number of articles was in the inclusion of a special category for birth control. The topics are listed at the foot of the matrix.

Overall, we see from the totals on the bottom line of the matrix that migration was the most heavily treated topic, with birth control second, and size/growth and mortality tying for third. (One could argue that there were several articles that covered both problems of population size/growth and birth control and thus the separation there sometimes became artificial.)

In the many articles appearing in general interest magazines, the topics were dictated largely by the current events being reported. The debate over the immigration bill, along with public concern over immigration from less developed countries, explains the 24 articles on migration. The birth control articles in general interest magazines were partially of the self-help sort and partially concerned with U.S. policy regarding family planning programs, as expressed in the context

of the Mexico City conference. The articles about population size and growth were dominantly written in connection with that conference. The death while jogging of famed runner Jim Fixx drew editors to look briefly at mortality, both in the general interest press and "other" special interest press (in which fitness magazines are well represented).

Among the science magazines, the article topics were notably diverse. There were articles on growth, morbidity and mortality, fertility, and birth control, all usually treated with something of a biological emphasis. Migration was virtually ignored.

The editors of women's magazines seem to believe their readers obsessed with childbearing. Most articles dealt with birth control; almost all the rest with fertility (usually fecundity). Editors of magazines for men, on the other hand, assume indifference by males to population in general and childbearing in particular.

The diplomatic special interest magazines are an unusual kind of category. They seem to fall somewhere between trade journals for the diplomatic corps and general interest magazines about world affairs. Three publications dominated the category: *Department of State Bulletin*, *Vital Speeches of the Day*, and *Foreign Affairs*, listed according to frequency of use. The population-related articles involved are uniformly authoritative statements by present or past officials: James L. Buckley, George P. Schultz, M. Peter McPherson, Robert McNamara, Angier Biddle Duke, and so on. Clearly these topics were determined by diplomatic concerns during this particular year; immigration and refugee policy and the international population conference dominated.

Authorship

Who writes the articles indexed in the *Reader's Guide*? Apparently not professional demographers. None of the articles' authors were listed in the 1982 *Directory of Members* of the

Population Association of America. There were a few who, although not members, have public reputations of expertise in population: Lester Brown, Anne H. Ehrlich, and Germaine Greer. In addition, there were those statements by political leaders, probably prepared in part by anonymous expert staff, appearing in the diplomatic magazines. But authors of popular magazine articles seem overwhelmingly to be unspecialized staff writers and freelancers.

Conclusions

Where could professional demographers make a maximum contribution to magazine journalism? I think it is not by writing for the most popular of the popular magazines. There has been considerable topical coverage in that segment, handled to the apparent satisfaction of editors by their staff writers. But in the category of authoritative magazines there might be an opportunity for professional demographers. Among the magazines indexed, one might point to the categories of scientific and diplomatic magazines, as well as general interest periodicals aimed at the educated and concerned. This may be contiguous with a category (not studied here) that could be labeled "reference journals," such as *Population Bulletin* and *Population and Development Review*.

Topically, there seem to be few rigid limits. If there is a new focus, it is on international migration to the U.S. But the main theme, I believe, is that more of the range of demography now can be expressed in thoughtful and authoritative magazine articles. What is needed is the underlining of connections between demographic topics and public concerns; I am amazed that there was not more about the age structure of populations, or about changing household patterns, for example.

This is a very personal interpretation of the market review, and goes far beyond the matrix results. Other readers may find other messages. □

Forum '85

Continued from page 2

Certain issues that figured largely in the two earlier forums have shifted in emphasis, while others have just appeared. At Forum '80, for example, the issue of female circumcision became the focal point for charges by African women that the attitudes of Western feminists were both patronizing and imperialistic. During the past five years, however, Africans have increasingly taken the fight against circumcision into their own hands, denouncing it in medical, rather than moral, terms. New issues, such as the new wave of religious fundamentalism in the Arab League countries and the role of women in environmental movements, have risen to the fore. Similarly, the worldwide economic recession and the international division of labor have become new focuses of feminist concern.

As might be expected, the family

planning debate became louder at Forum '85, in the wake of recent U.S. policy changes and the growth of Western right-to-life movements. As the region with the highest fertility rate in the world (6.3 births per woman), Africa provided a particularly appropriate environment for such a debate. At a number of panels, right-to-life Forum delegates predictably clashed with Third World proponents of family planning programs. While many women from developing countries displayed interest in educating the public about family planning and developing better mechanisms for delivering contraceptives, the Western pro-life contingent questioned the basic premises behind family planning.

Representatives of pro-life movements argued that Western family planning programs are racist, constituting little more than genocide. They accused Western pharmaceutical companies of treating African women like guinea pigs, citing the use

of Depo-Provera (not approved in the U.S.) in developing countries. Other Westerners commented on the hypocrisy of the right-to-lifers, all of whom come from countries where contraceptives are widely available, in withholding the benefits of family planning from women in developing countries. The predominant Third World view was summed up by Visi Srinivasan, a Ford Foundation officer from New Delhi, when she said, "If the U.S. is going to fight about family planning, fine, you fight it out among yourselves. But don't drag us into it."

One of the conclusions to emerge most strongly from the Forum is the negative effect of the debt crisis and the international economic recession on women in developing countries. Though denounced by some Western feminists as a "political" issue, it became clear during sessions led by Latin American and African women that structural problems are indeed women's issues, as women are the first to suffer when economic conditions deteriorate. African panelists criticized the prevailing international division of labor for exacerbating Africa's current food shortage. The emphasis on cash crops, they say, has contributed to the disadvantaged position of women farmers, who mainly cultivate subsistence crops.

Though the Forum events were generally well organized, a number of logistical problems were evident, chief among them "the hotel situation." Thousands of women with confirmed hotel reservations discovered upon their arrival that the hotels had overbooked and were unable to honor reservations, forcing some women to triple up in single rooms and compelling others to seek accommodations in nearby universities. To make matters worse, a second crisis erupted two days later when several hotels evicted Forum participants in order to make room for the government-appointed delegates to the official UN Conference.

On the positive side, the attitude of the government and the local press was generally supportive of the conference. Male Nairobians exhibited lively interest and curiosity in the proceedings, perhaps reassured by a

Continued on next page

The Official UN Women's Conference

The official Conference was held to review and appraise the achievements of the UN Decade for Women, which ends this year. This was the third UN sanctioned conference for women held during the decade; Mexico City hosted the first in 1975 and the second was held in Copenhagen in 1980. The theme of all three conferences was "Equality, Development, Peace," encompassing many feminist concerns, ranging from inadequate food to unemployment, from rape to marriage rights.

Unlike those at the 1980 Conference, delegates at the Nairobi Conference achieved their goal of preparing a universally acceptable major conference document. The 372-paragraph document, which was adopted by unanimous vote, contains "Forward Looking Strategies" to guide women until the year 2000.

Though unanimity was achieved and the final document was devoid of ideological extremes, debates at the conference were not without ideological fervor. Political concerns were at the center of many of the disputed paragraphs. Indeed, a walkout on the part of the U.S. and Israel delegations was rumored, but was averted when language equating Zionism with racism was removed from the document.

The following four population and family planning-related goals were adopted for implementation within the next 15 years:

- Strengthening of family planning and maternal and child health components of primary health programs,
- Ensuring a voluntary and free choice for women to make decisions about their family size,
- Calling upon governments to make efforts to raise the age of entry into marriage "in countries in which this age is still quite low" and to provide adolescents with adequate family planning information and education, and
- Calling upon governments to ensure that fertility control methods conform to adequate standards of quality, efficiency, and safety.



U.S. Delegation head
Maureen Reagan

story in the *Nairobi Standard* beginning, "Men should not worry about the outcome of deliberations of the NGO Forum '85 taking place at the University of Nairobi." Male taxi drivers were only too eager to offer their opinions about the forum's probable results but were concerned that so many women had left their husbands to fend for themselves back home.

It is too early to speculate on the long-term results of Forum '85, but a number of positive signs have materialized. First, press coverage of Forum '85 was heavier and generally more substantive than the coverage of the earlier forums; instead of emphasis on issues that divide feminists, serious development issues played a major role. This favorable publicity—and the raised consciousness it has engendered on the part of the public—will help create a climate more conducive to future fundraising in the women in development field. Secondly, the value of the Forum in terms of disseminating news about successful women's projects and organizations, such as the Working Women's Forum and Women's World Banking, is inestimable. Many women from developing countries learned that they have the same problems as women in other countries and have profited from their solutions. Finally, an extensive system of international networks among NGOs working on the same issues was strengthened and in some cases developed anew.

As the UN Decade for Women ends, the job of designing and implementing development projects that answer women's needs will fall increasingly on the world's nongovernmental organizations. Forum '85 marked the beginning of a new and effective collaboration among women's NGOs. As Leticia Shahani, Secretary General of the official UN Conference told attendees of the Forum's closing ceremony, "It is all up to you." □

Africa's Problems Not Insoluble

With continuing drought, ecological deterioration, and economic decline, no continent on earth is having as many troubles as Africa, which contains some one-half billion people and also has the highest population growth rate of any continent (estimated at 2.9 percent as of 1985).

It is this rapid population growth (Africa's women average over 6 children each) that is driving the continent's deterioration, according to Lester R. Brown and Edward C. Wolf, authors of the new *Worldwatch Paper*, "Reversing Africa's Decline." In their study, they describe the problems facing the continent, which include, in their view, reduction in rainfall caused by deforestation and increases in runoff.

To reverse these trends, they outline a development strategy involving such

programs as massive tree-planting and soil conservation, which could be done at the local level. Commitment at the top and program management at the grassroots level are vital in order to lower population growth to replacement level, the authors feel. Such steps must, they say, be taken quickly: "The further the relationship between people and natural support systems unravels, the more difficult it will be to reverse Africa's decline." □

Copies of *Worldwatch Paper* 65, "Reversing Africa's Decline," by Lester R. Brown and Edward C. Wolf, are available from the Worldwatch Institute, 1776 Massachusetts Avenue, N.W., Washington, D.C. 20036. Single copies are \$4.00 each; 2-5 copies, \$3.00 each; 6-20 copies, \$2.00 each.

POSITIONS/ PROFESSIONALS

Positions open in population-related fields will be published free in *Population Today* on a space-available basis. Send information to Positions Professionals, PT, Population Reference Bureau, 2213 M St. N.W., Washington, D.C. 20037. Positions listed in PT are provided by Equal Opportunity Employers.

Position in population policy development. University of Michigan, to work on a development project mainly in francophone Africa. Qualifications: PhD in demography, population dynamics, or related field; fluent spoken and written French and experience working with LDC governments or international agencies essential. **Contact:** Program in Population Planning, School of Public Health, University of Michigan, Ann Arbor, Mich. 48109.

Population Update

Estimated United States Population:

As of April 1, 1985	238,280,000
As of April 1, 1984	236,162,000

The above estimates include armed forces overseas and are from U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 972.

Estimated World Population:

As of September 1985	4,859,000,000
Annual Growth	82,000,000

Estimated by extrapolation of the mid-1985 world population given on the 1985 World Population Data Sheet.

Latest Provisional Statistics for the U.S.: April 1985

Item	12 months ending with April					
	Number		Rate			
	1985	1984	1985	1984	1983	1982
Live births	3,710,000	3,634,000	15.7	15.5	15.9	15.9
Deaths	2,081,000	2,020,000	8.8	8.6	8.6	8.5
Natural increase	1,629,000	1,614,000	6.9	6.9	7.3	7.4
Marriages	2,465,000	2,440,000	10.4	10.4	10.7	10.6
Divorces	1,165,000	1,160,000	4.9	4.9	5.1	5.2
Infant deaths	39,100	39,100	10.5	10.8	11.1	11.5
Population base (in millions)			236.9	234.5	232.3	230.2

Note. Rates are given per 1,000 population, except for infant deaths, which are given per 1,000 live births. Rates are based on revised population estimates from the 1980 Census. Source. *Monthly Vital Statistics Report* (Vol. 34, No. 4) from the National Center for Health Statistics.

SOFTWARE

International Data Base (IDB). Diskettes containing demographic, economic, and social data on virtually any country are now available from the U.S. Census Bureau.

Each country diskette contains up to 94 tables, as well as annotations, references, and notes. A BASIC computer program is supplied to enable users to format the data for software packages such as Lotus 1-2-3, dBase, SuperCalc, and SPSS. Documentation is also included. The diskettes are IBM-PC compatible.

A total of 203 countries is available on IDB. The cost for the first country is \$15.00; each additional country is \$7.50. IDB statistical tables are also available in printed form. For further information and an order form, contact: Greg Nowarkowski, Center for International Research, Scuderi Building, Rm. 409, U.S. Bureau of the Census, Washington, D.C. 20233. (301) 763-4286.

Survival 1.1 is a survival analysis program that produces various types of life tables, making allowance for multiple decrement and cause-deleted rates for up to 15 event categories. The output includes standard errors of the principal life table terms and significance tests of differences between tables when more than one table is entered, and includes decomposition of differences in life expectancy by cause for multiple decrement tables.

This program is IBM-PC compatible, and requires 192K or more of RAM. Cost of disk and documentation is \$10.00 (check payable to CHAMPS/UTSPH). Write: CHAMPS Office, University of Texas School of Public Health, P.O. Box 20186, Houston, Tex. 77225.

CORRECTION

Liu Zheng was incorrectly identified in the July/August *PT* ("IUSSP Meets on the Banks of the Arno"). Mr. Liu is Director, Population Research Institute, Chinese People's University, Beijing. The Director of China's 1982 Census was Li Chengrui, who submitted a paper featured at the IUSSP meeting but was not present at Florence.

TAKE A NUMBER...

A Riot of Rankings: A new book by George Thomas Kurian, *The New Book of World Rankings* (Facts on File, New York, \$14.95 in paper) contains over 100,000 bits of information which rank the world's countries on the trivial and not-so-trivial.

Recognizing that definitions of concepts may vary from country to country and that data quality is often fuzzy, Kurian presents 343 tables of rankings which can become a bit like eating peanuts, statistically speaking. Here goes.

Who has the most bachelors? French Guyana (get it? Guyana?) with 53.2 percent of its males aged 45-49 unmarried; next is Kenya, 32.1 percent. At the other end of the scale is Pitcairn Island (pop. 67) with all of Fletcher Christian's male descendants spoken for. Central Park-sized Monaco comes in as the world's most densely populated country, with 17,450 persons per sq. kilometer; least populated of all is Mongolia with each sq. kilometer home to but 1 person.

Nations are even ranked on age. Ethiopia gained independence in 3000 B.C. and is the oldest continuous nation. The United States, which we often think of as a new nation, actually ranks 16th, ahead of some European countries and even Greece, since the definition uses "present form of government" as its yard-

stick. On the index of "Democratization," Denmark is the most democratic, with the U.S. a lowly 22nd; Togo, Tunisia, Uganda, Vietnam, and North Yemen round out the bottom five on this one.

Sometimes using the smallest countries in the rankings is not helpful. On foreign aid per capita, the top 12 or so countries are all small island nations with small populations and, therefore, small denominators. As often as not a country like Vanuatu will wind up as either first or last on a list of rankings, but that's a problem that plagues all ranking schemes.

Iceland has the highest protein consumption, Zaire the lowest... Chad has the highest proportion of blind persons, 5 percent, the U.S. has 0.2 percent... the Soviet Union ranks third in movie attendance with the U.S. only 39th... the U.S. has more daily newspapers than anyone, 1,787, but Turkey and West Germany, with far smaller populations, are not far behind with 1,115 and 1,093, respectively—while *Pravda* may predominate in the USSR, it has company: 638 other dailies... the U.S. leads the world in wheat production, right? Wrong, the USSR does. The U.S. is also bested in tobacco production by China, milk by the USSR, and peanuts by India... But at least some expectations hold up: Brazil and Colombia lead in coffee.

...addenda

Signs of the Inexorable Aging of America — I



Hawaiian shirts (aka Aloha shirts), once exclusive of the Tropics, now colorfully envelop the 50 states like a tent. One reason may be that they cover the physique like a tent, a couture factor that may become increasingly important as the U.S. continues inexorably to age.

CURRENT READINGS

PRB welcomes materials on population topics for possible inclusion in Current Readings. Publishers may address review copies to Book Review Editor, *POPULATION TODAY*, Population Reference Bureau, 2213 M St., N.W., Washington, D.C. 20037.

INFANTICIDE: Comparative and Evolutionary Perspectives. edited by Glenn Hausfater and Sarah Blaffer Hrdy. New York: Aldine, 1984. \$34.95. 598 pages. ISBN 0-202-0202-3.

This work of 25 essays is the result of a conference at Cornell University on "Infanticide in Animals and Man." The book brings together a wide range of specialists of various disciplines pointing to widespread occurrence of infanticide in nature.

In addition, four of the contributors deal with infanticide in man. Susan C. M. Scrimshaw, in a fascinating review essay, gives an historical overview on infanticide in different societies. She discusses the current changed definitions of infanticide and the wide variety of infanticidal means including "selective neglect." Scrimshaw also addresses the variety of culture contextual reasons for female infanticide, among those reasons: disproportionate value assigned to male work, the holding of primary political power by men, and resource scarcity. She concludes that the "... tragedy is that modern contraceptives and even induced abortion have not sufficiently replaced infanticide as a means of fertility control."

—Alexander von Cube

"THE OLDEST OF THE OLD." special issue edited by R. Suzman and M.W. Waxman. *Milbank Memorial Fund Quarterly/Health and Society*. 1985. Vol. 63. No. 2. \$6.50.

The editors of this volume on those 85 and older comment that it "represents the first and not the last word" on the oldest of the old. This book is an interesting and informative first.

This group, known as the "oldest old," constitutes only one percent of the U.S. population, yet it is growing faster than any other age group—the percentage of the population it represents will double in 15 years. Rapid growth of the extreme aged is not new: between 1940 and 1960, those 85 and older increased by 154 percent. What is new is official recognition that the number of the very old is now

sufficiently large to have a major impact on health care and social services.

Until very recently, less was known about the oldest-old than about any other age group. Largely invisible and ignored because of their relatively small size and presumed remoteness, the oldest-old in the 1980s have entered the limelight as persons of concern to policymakers and fascination to researchers.

This special issue of *Milbank's Health and Society* series is the first major collection of research findings on the demography, health, economic status, and future prospects of this hitherto obscure age group. As a summary of the current state of knowledge, it is a must for anyone interested in the very old.

It is also most instructive about what is not known, and herein lie the most fruitful avenues for further research, for example: the special needs of older women, behavioral and genetic factors contributing to morbidity, racial differences in aging, the implications of long life for families who care for the aged, and the impact of extended longevity on long-term institutional care.

—Alice T. Day

THE MAGIC NUMBERS OF DR. MATRIX. by Martin Gardner. Buffalo, N.Y.: Prometheus Books, 1985. 240 pages. \$19.95; \$10.95 paper. ISBN 0-87975-281-5; 0-87975-282-3.

The adventures of Dr. Irving Joshua Matrix, elusive numerologist, statistical prestidigitator, and consultant extraordinaire, were faithfully chronicled over two decades by the *Scientific American's* Martin Gardner. If you never made the acquaintance of the mythical good doctor, you can catch up thanks to this newly published collection of his most outrageous pronouncements and escapades.

—Arthur Haupt

THE MALLING OF AMERICA: An Inside Look at the Great Consumer Paradise. by William Severini Kowinski. New York: William Morrow, 1985. 415 pages. \$17.95. ISBN 0-688-04180-9.

This book's chatty author takes the reader on a tour of the U.S.'s great shopping malls, while casually tracing his subject from its modest beginnings in the first en-

closed mall (Edina, Minn., 1956). While to some extent an exercise in anecdotal pop-sociology, this book is valuable for the glimpses it provides of the strange phenomenon of malling, which has in many places resulted in the end of traditional "Main Street America" and the beginning of a country where some major shopping malls now appear on Rand McNally maps.

—Arthur Haupt

PUBLICATIONS RECEIVED

AGING IN MODERN SOCIETY. edited by Dorothy Jerrome. New York: St. Martin's Press, 1983. 307 pages. \$30.00.

AGRARIAN REFORM IN CONTEMPORARY DEVELOPING COUNTRIES. edited by Ajit Kumar Ghose. New York: St. Martin's Press, 1983. 364 pages. \$35.00.

DIRECTORY OF SPECIAL LIBRARIES AND INFORMATION CENTERS IN THE UNITED STATES AND CANADA. edited by Brigitte T. Darnay. Ninth edition, in two parts. Detroit: Gale Research, 1985. Vol. 1. (The Directory). 735 pages. \$320.00. Vol. 2. (Geographic and Personnel Indexes). 876 pages. \$265.00.

FERTILITY, STERILIZATION, AND POPULATION GROWTH IN SHANTI NAGAR, INDIA: A Longitudinal Ethnographic Approach. by Stanley A. Freed et al. New York: American Museum of Natural History, 1985. 48 pages. \$7.00.

INTERNATIONAL POPULATION CONFERENCE: Florence, Italy, 1985. Vols. 2 through 4. Liege, Belgium: International Union for the Scientific Study of Population.

THE KNOWLEDGE EXECUTIVE: Leadership in an Information Society. by Harlan Cleveland. New York: E. P. Dutton, 1985. 263 pages. \$18.95.

REPRODUCTIVE CHANGE IN DEVELOPING COUNTRIES: Insights from the World Fertility Survey edited by John Cleland et al. New York: Oxford University Press, 1985. 301 pages. \$24.95.

SPOTLIGHT

PERU

Population, 1985 (est.): 19.7 million
 Births per 1,000 pop. (1982): 35
 Deaths per 1,000 pop. (1982): 10
 Land area: 496,200 sq. miles
 Percent of population aged 15 and under (1984): 41
 Percent of population aged 65 and over (1984): 4
 Infant mortality rate: 99 deaths per 1,000 live births
 Life expectancy at birth: 59 years
 Major exports (1982): copper, silver, fish and fish meal, lead, zinc
 Major imports (1982): machinery, food products, chemicals
 GNP per capita (1983): US\$1,040
 Capital: Lima (5.8 million pop.)

by Leon Yacher

South America's third largest country in area (after Brazil and Argentina), Peru is a nation with a most difficult topography. The Andes mountains divide it from north to south, resulting in a narrow desert coastline, the rugged mountain region known as the Sierra, and the tropical rain forest plain—which is the largest of the three regions and constitutes 63 percent of the country's land area.

These three areas are very dissimilar, creating an unusual set of circumstances for Peru's population. The climate on the coast is very dry and temperate. In the hot and humid Amazon basin, rainfall is plentiful, especially between November and April. The mountain region exhibits a dry season between May and November. The high elevations limit the productivity of the soils; yields are low and labor is hard. Rich in its history, this country was home to the Inca Empire which controlled most of the Andes region until the arrival of the Spaniards. Peru obtained its independence from Spain on July 28, 1821.

Economically, much of Peru's

population still relies on the land: 40.7 percent of the labor force is employed in agriculture. However, only 15 percent of the national income is derived from agriculture.

Peru is highly urbanized, with the cities growing faster every year. In 1981, 65 percent of the country's total population growth occurred in its cities. While the country's population more than doubled between 1940 and 1981, the urban population during that time period multiplied fivefold. Much of the growth in the urban areas, particularly the area in and around the capital city of Lima, where one in three Peruvians now resides, is a result of migration from the mountain regions.

Peru's population is very young, with 41 percent under 15 years of age. Only 4 percent of the population is 65 years or older. The rate of growth is 2.6 percent. Birth rates have declined from 45 per 1,000 during the early 1960s to the present 35 per 1,000. The country's total fertility rate is 5.2 lifetime births per woman. Immigration is not a growth

factor. In fact, only 0.4 percent of the population is foreign born (mostly from bordering countries).

Five major racial groups are represented in the country. The mestizos and whites represent 53 percent of the population; Indians account for 46 percent; and Asians, blacks, and undeclared make up the remaining one percent of Peru's population. The *mestizo* is the result of the intermixing of the Spanish and Indian people during and after the conquest of the region. Religion is another legacy of the Spaniards in Peru: 90 percent of the population is Catholic, while 5 percent is Protestant (0.2 percent are non-believers).

Education is a serious problem in Peru where 16 percent of the population age five and over has had no education at all, while 36 percent received up to a fourth grade education. Approximately 21 percent of the population is illiterate.

Perhaps the most serious problem facing the recently inaugurated President Alan Garcia (the first elected civilian president since 1945) is the country's disastrous economic state. With an annual inflation rate of 250 percent, and a US \$13.5 billion foreign debt, Peru may be on the brink of social unrest and collapse. All this is complicated by the recent shift to urban terrorism by the Shining Path guerrillas, who are concentrating their efforts in Lima. The sol, Peru's monetary unit, has devalued from approximately 171 to the dollar in 1974 to the current rate of 12,400 per dollar. A new monetary system is being introduced called the *Inti* (which equals 1,000 soles).

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Percent distribution of population by department